

1. NICKEL SULFATE

Concentration: 0.20 mg/cm²

Vehicle: hydroxypropyl cellulose

Allergen component per patch: Nickel, 0.036 mg

Synonyms or components:

Nickel sulfate:

- Nickel (Ni)
- Nickel alloys
- Nickel catalyst
- Nickel soluble salts
- Carbonyl nickel powder
- Nickel-plating
- Elemental nickel

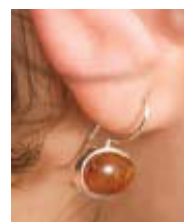
Chemical Identification: CAS Registry Nos. 7440-02-0, 7786-81-4;
EINECS Nos. 231-111-4, 232-104-9

Other substances to which the patient may react:

- Possible coexisting allergies to chromate and cobalt with occupational exposure.

Potential Allergen Sources:

- Nickel and nickel-plated objects; tools; metal machine parts and equipment;
- Nickel catalysts, powders and pigments;
- Metalworking fluids and oils;
- Costume jewelry; keys, coins and utensils;
- Metal clothing fasteners;
- Foods such as legumes, nuts, grains, fish, chocolate, and potatoes.



Clothing & Jewelry

2. WOOL ALCOHOLS (LANOLIN)

Concentration: 1.00 mg/cm²

Vehicle: Polyvidone

Allergen patch components: Cholesterol, lanosterol, agnosterol (and dihydro derivatives); straight- and branched-chain aliphatic alcohols; 0.81 mg total (the active allergenic component has not been identified)

Synonyms or components:

Wool alcohols (or lanolin):

- Fats and glyceridic oils, wool
- Wool grease, fat or fatty acid
- Degras
- Wool wax or wool wax, lanolin
- Anhydrous lanolin
- Fats, lanolin
- Adeps Lanae

Chemical Identification: CAS Registry Nos. 8006-54-0, 8020-84-6;
EINECS 232-348-6, 232-418-6;
EPA Pesticide Chemical Code 031601

Potential Allergen Sources:

- Personal care products such as cosmetics and cleansers;
- Pet care products;
- Metalworking fluids.



Personal Care Products

3. NEOMYCIN SULFATE

Concentration: 0.23 mg/cm²

Vehicle: Methylcellulose

Allergen patch components: Neomycin sulfate, USP, 0.19 mg

Synonyms and components:

Neomycin sulfate:

- Neomycin B sulfate

Chemical Identification: CAS Registry Nos. 1405-10-3;
EINECS 215-773-1;
EPA Pesticide Chemical Code 006313

Other substances to which the patient may react:

- Topical antibiotics: gentamicin, bacitracin, framycetin,
- Injectable antibiotics: kanamycin, mycifradin, sisomycin, paromomycin, streptomycin, butirosin, spectinomycin, fradiomycin.

Potential Allergen Sources:

- Topical antibiotics, with or without anti-inflammatories or anti-pruritics.



*Drugs and
medicines*

4. POTASSIUM DICHROMATE (CHROMIUM)

Concentration: 0.023 mg/cm²

Vehicle: Hydroxypropyl cellulose

Allergen patch components: Chromium, 0.0067 mg

Synonyms and/or components:

Potassium dichromate:

- Chromium compounds
- Chromium metal or chrome
- Dipotassium dichromate (or bichromate)
- Chromium and chromium salts
- Chromic acid salts

Chemical Identification: *Potassium dichromate* - CAS Registry Nos. RN: 7778-50-9;
EINECS 231-906-6; EPA Pesticide Chemical Code 068302
Chromium - CAS Registry Nos. 7440-47-3;
EINECS 231-157-5

Potential Allergen Sources:

- Industrial, construction and home repair products such as cement, concrete; wood preservatives;
- Leather and hide glues;
- Metal working, welding and plating with chrome alloys; cutting oils, corrosion inhibitors, drilling muds;
- Green dyes and metallic pigments; inks and paints;
- Chromic surgical gut sutures, orthopedic and dental implants or prosthesis.



*Industry &
Manufacturing*

5. CAINE MIX

Concentration: 0.63 mg/cm²

Vehicle: Polyvidone

Allergen patch components: Benzocaine, USP, 0.364 mg;
Tetracaine HCl, USP, 0.063 mg;
Dibucaine HCl, USP, 0.064 mg

Synonyms and/or components:

Benzocaine:

- 4-Carbethoxyaniline
- Benzoic acid, 4-amino-, ethyl ester
- Ethyl 4-aminobenzoate
- 4-(Ethoxycarbonyl)aniline
- Ethyl PABA

Tetracaine:

- *p*-Butylaminobenzoyl-2-dimethylaminoethanol
- Dimethylaminoethyl *p*-butyl-aminobenzoate
- Benzoic acid, 4-(butylamino)-, 2-(dimethylamino)ethyl ester

Dibucaine:

- alpha-Butyloxycinchoninic acid diethylethylenediamide
- 2-Butoxy-N-(2-(diethylamino)ethyl)-cinchoninamide
- 2-Butoxyquinoline-4-carboxylic acid diethylaminoethylamide
- Cinchocaine

Chemical Identification: *Benzocaine* - CAS Registry Nos. 94-09-7;
EINECS 202-303-5; EPA Pesticide Chemical Code 097001
Dibucaine - CAS Registry Nos. 85-79-0;
EINECS 201-632-1
Tetracaine - CAS Registry Nos. 94-24-6;
EINECS 202-316-6

Potential Allergen Sources:

- Topical anesthetics (over-the-counter and prescription);
- Topical antiseptic preparations (over-the-counter and prescription).



*Drugs and
medicines*

6. FRAGRANCE MIX

Concentration: 0.43 mg/cm²

Vehicle: Hydroxypropyl cellulose, b-cyclodextrin

Allergen patch components: Geraniol, 0.070 mg;
Cinnamaldehyde, 0.034 mg;
Hydroxycitronellal, 0.054 mg;
Cinnamyl alcohol, 0.054 mg;
Eugenol, 0.034 mg;
Isoeugenol, 0.015 mg;
 α -Amylcinnamaldehyde, 0.015 mg;
Oak moss, 0.070 mg

Synonyms and/or components:*Geraniol:*

- Geraniol alcohol
- Geranyl alcohol
- trans-3,7-Dimethyl-2,6-octadien-1-ol

Cinnamaldehyde:

- Cinnamal
- Cassia aldehyde
- Cinnamic aldehyde
- 3-Phenyl-2-propenal
- 3-Phenylacrolein

Hydroxycitronellal:

- Citronellal hydrate
- Lilyl aldehyde
- 7-Hydroxy-3,7-dimethyloctanol
- Oxydihydrocitronellal
- Muguet synthetic

Cinnamyl alcohol:

- Cinnamic alcohol
- 3-Phenyl-2-propenol
- 3-Phenylallyl alcohol

Eugenol:

- Allylguaiacol
- 2-Methoxy-4-allylphenol
- 2-Methoxy-4-(2-propenyl)phenol
- 4-Hydroxy-3-methoxyallylbenzene
- 4-Allylcatechol 2-methyl ether

Isoeugenol:

- 4-Propenylguaiacol
- 2-Methoxy-4-(1-propenyl)phenol
- 4-Hydroxy-3-methoxypropenylbenzene

 α -Amylcinnamaldehyde:

- Amyl cinnamal
- Jasmine aldehyde
- α -Amyl- β -phenylacrolein
- 2-Pentylcinnamaldehyde
- 2-Benzylideneheptanal
- 2-(Phenylmethylene)heptanal

Chemical Identification:

Geraniol - CAS Registry # 106-24-1; EINECS 203-377-1;
EPA Pesticide Chemical Code 597501

Cinnamaldehyde - CAS Registry # 104-55-2, EINECS 203-213-9;
EPA Pesticide Chemical Code 040506

Hydroxycitronellal - CAS Registry # 107-75-5; EINECS 203-518-7

Cinnamyl alcohol - CAS Registry # 104-54-1; EINECS 203-212-3

Eugenol - CAS Registry # 97-53-0; EINECS 202-589-1;
EPA Pesticide Chemical Code 102701

Isoeugenol - CAS Registry # 97-54-1; EINECS 202-590-7

α -Amylcinnamaldehyde - CAS Registry # 122-40-7;
EINECS 204-541-5 and 215-565-0

Other substances to which the patient may react:

- Colophony
- Citral
- Propolis balsam
- Lyrall
- Farnesol
- Balsam of Peru and its components (cinnamic acid, methyl cinnamate, cinnamoin, vanillin, and cinnamyl cinnamate)

Potential Allergen Sources:

- Perfumes and colognes; cosmetics; personal care, hygiene, oral hygiene and hair care products;
- Over-the-counter and prescription medicines;
- Pet care products; insecticides and pesticides;
- Household cleaners, air fresheners and deodorizers; paper products;
- Some foods and flavorings; botanical (herbal) products;
- Metal working fluids and industrial cleaners, deodorizers and masking fragrances;
- Candles, incense and essential oils.



*Personal Care
Products*

7. COLOPHONY

Concentration: 1.20 mg/cm²

Vehicle: Polyvidone

Allergen patch components: Colophony, 0.97 mg

Synonyms and/or components:*Colophony:*

- Abietic acid
- Colophonium
- Tall oil
- Wood or pine rosin
- Disproportionated rosin
- Rosin, gum rosin, or rosin gum
- Abietic alcohol, abietyl alcohol, or methyl abietate alcohol

Chemical Identification: CAS Registry Nos. 8050-09-7, EINECS 232-475-7,
EPA Pesticide Chemical Code 067205

Other substances to which the patient may react:

- Wood tars
- Fragrances, essential oils and some spices
- Rosin esters

Potential Allergen Sources:

- Wood products, sawdust, wood fillers; glues and adhesives;
- Coatings, polishes, and waxes; waxed thread;
- Industrial lubricants and cutting fluids; soldering products;
- Instrument rosin;
- Topical salves.



*Industry &
Manufacturing*

8. PARABEN MIX

Concentration: 1.00 mg/cm²

Vehicle: Polyvidone

Allergen patch components: Methyl *p*-hydroxybenzoate, 0.162 mg;
Ethyl *p*-hydroxybenzoate, 0.162 mg;
Propyl *p*-hydroxybenzoate, 0.162 mg;
Butyl *p*-hydroxybenzoate, 0.162 mg;
Benzyl *p*-hydroxybenzoate, 0.162 mg;

Synonyms and/or components:

Methyl p-hydroxybenzoate:

- Benzoic acid, 4-hydroxy-, methyl ester
- 4-Hydroxybenzoic acid methyl ester

Ethyl p-hydroxybenzoate:

- Benzoic acid, 4-hydroxy-, ethyl ester
- 4-Hydroxybenzoic acid ethyl ester

Propyl p-hydroxybenzoate:

- Benzoic acid, 4-hydroxy-, propyl ester

Butyl p-hydroxybenzoate:

- Benzoic acid, 4-hydroxy-, butyl ester

Benzyl p-hydroxybenzoate:

- Phenylmethyl 4-hydroxybenzoate
- *p*-Hydroxybenzoic acid benzyl ester

- Methylparaben
- *p*-Methoxycarbonylphenol
- Methyl parahydroxybenzoate
- Ethylparaben
- *p*-Carbethoxyphenol
- Ethyl *p*-oxybenzoate
- Propylparaben
- 4-Hydroxybenzoic acid propyl ester
- Butylparaben
- 4-Hydroxybenzoic acid butyl ester
- Benzylparaben
- Benzoic acid, 4-hydroxy-, phenylmethyl ester

Chemical Identification:

Methyl p-hydroxybenzoate- CAS Registry Nos. 99-76-3, EINECS 202-785-7, EPA Pesticide Chemical Code 061201

Ethyl p-hydroxybenzoate- CAS Registry Nos. 120-47-8, EINECS 204-399-4, EPA Pesticide Chemical Code 061202

Propyl p-hydroxybenzoate- CAS Registry Nos. 94-13-3, EINECS 202-307-7, EPA Pesticide Chemical Code 061203

Butyl p-hydroxybenzoate- CAS Registry Nos. 94-26-8, EINECS 202-318-7, EPA Pesticide Chemical Code 061205

Benzyl p-hydroxybenzoate- CAS Registry Nos. 94-18-8, EINECS 202-311-9

Potential Allergen Sources:

- Products for personal care, hygiene, oral hygiene and hair care;
- Most cosmetics;
- Pet care and grooming products;
- Analgesic medications for skin; and hemorrhoid preparations.



9. NEGATIVE CONTROL

The negative control is an uncoated polyester patch with no allergen or vehicle.

It is used to differentiate negative reactions and help interpret doubtful or minimal reactions to the allergen-containing patches.

10. BALSAM OF PERU

Concentration: 0.80 mg/cm²

Vehicle: Polyvidone

Allergen component per patch: Balsam of Peru, 0.65 mg total

Synonyms, components, or chemically related allergens:

Balsam of Peru:

- Peruvian balsam
- Balsam fir oleoresin or oil
- Cinnamoin
- Myroxylon pereirae oleoresin
- Balsam Peru oil or extract
- Hyperabsolute balsam, Peru
- Balsam of Tolu

Balsam of Peru components:

- Cinnamic or cinnamyllic acid; 3-phenyl-2-propenoic acid; 3-phenylacrylic acid
- Cinnamal or cinnamic aldehyde; cassia aldehyde; 3-phenyl-2-propenal
- Cinnamic or cinnamyl alcohol; 3-phenyl-2-propenol; 3-phenylallyl alcohol
- Methyl cinnamate or cinnamylate; cinnamic acid methyl ester; methyl 3-phenylpropenoate
- Benzyl cinnamate or cinnamoin; cinnamic acid benzyl ester; phenylmethyl 3-phenyl-2-propenoate
- Vanillin or vanillic aldehyde; vanillaldehyde; 4-hydroxy-3-methoxybenzaldehyde; 2-methoxy-4-formylphenol
- Eugenol or allylguaiacol; 2-methoxy-4-(2-propenyl)phenol; 2-methoxy-4-allylphenol
- Cinnamyl cinnamate or styracin; 3-phenylallyl cinnamate; 3-phenyl-2-propenyl 3-phenyl-2-propenoate

Chemical Identification: Peruvian balsam CAS Registry Nos. 8007-00-9, EINECS 232-352-8

Other substances to which the patient may react:

- Fragrance mix components - eugenol, isoeugenol, cinnamaldehydes, cinnamyl alcohol
- Gum benzoin
- Colophony
- Propolis balsam

Potential Allergen Sources:

- Perfumes and colognes; cosmetics; personal care, hygiene, oral hygiene and hair care products;
- Over-the-counter and prescription medicines;
- Pet care products; pesticides;
- Household cleaners, air fresheners and deodorizers; paper products;
- Some foods and flavorings; botanical (herbal) products;
- Metal working fluids and industrial cleaners, deodorizers and masking fragrances;
- Candles, incense and essential oils.



11. ETHYLENEDIAMINE DIHYDROCHLORIDE

Concentration: 0.050 mg/cm²

Vehicle: Methylcellulose

Allergen patch components: Ethylenediamine, 0.018 mg

Synonyms and/or components:

Ethylenediamine dihydrochloride

- Chlor-ethamine
- Ethylenediammonium chloride
- Ethylenediamine (EDA)
- Dimethylenediamine dihydrochloride
- 1,2-Diaminoethane dihydrochloride

Chemical Identification: CAS Registry No. 333-18-6, EINECS 206-369-6

Other substances to which the patient may react:

- Diethylenetriamine (DETA)
- Triethylenetetramine (TETA)
- Disalicylalpropylenediimine
- Epoxy amines
- Rarely, orally administered piperazine-related antihistamines

Potential Allergen Sources:

- Used in the industrial manufacturing of chelating agents, corrosion inhibitors, fuel additives, epoxy curing agents, pharmaceuticals, carbamate-based chemicals, bleach activators, retention and processing aids, plastic lubricants, urethane foam catalysts, printing ink binders, and textile dye-assist compounds.



Industry & Manufacturing

12. COBALT DICHLORIDE

Concentration: 0.020 mg/cm²

Vehicle: Hydroxypropyl cellulose

Allergen patch components: Cobalt, 0.0040 mg

Synonyms and/or components:

Cobalt dichloride or cobalt: • Cobalt metal, metal powder, dust or fume

Chemical Identification: CAS Registry No. 7440-48-4, EINECS 231-158-0

Other substances to which the patient may react (based on cosensitization):

- Nickel
- Chromate

Potential Allergen Sources:

- Cement and bricks;
- Cobalt and cobalt alloys; cobalt catalysts; cobalt fumes, powders and pigments;
- Metalworking fluids and oils;
- Metal tools, jewelry and utensils (as with nickel);
- Paints, inks, glazes and finishes.



Industry & Manufacturing

13. *P*-TERT-BUTYLPHENOL FORMALDEHYDE RESIN

Concentration: 0.045 mg/cm²

Vehicle: Hydroxypropyl cellulose

Allergen patch components: *p*-tert-Butylphenol formaldehyde resin, 0.036 mg

Synonyms and/or components:

Ethylenediamine dihydrochloride

- Chlor-ethamine
- Ethylenediammonium chloride
- Ethylenediamine (EDA)
- Dimethylenediamine dihydrochloride
- 1,2-Diaminoethane dihydrochloride

Chemical Identification: CAS Registry No. 333-18-6, EINECS 206-369-6

Other substances to which the patient may react:

- Diethylenetriamine (DETA)
- Triethylenetetramine (TETA)
- Disalicylalpropylenediimine
- Epoxy amines
- Rarely, orally administered piperazine-related antihistamines

Potential Allergen Sources:

- Used in the industrial manufacturing of chelating agents, corrosion inhibitors, fuel additives, epoxy curing agents, pharmaceuticals, carbamate-based chemicals, bleach activators, retention and processing aids, plastic lubricants, urethane foam catalysts, printing ink binders, and textile dye-assist compounds.



Industry & Manufacturing

12. COBALT DICHLORIDE

Concentration: 0.020 mg/cm²

Vehicle: Hydroxypropyl cellulose

Allergen patch components: Cobalt, 0.0040 mg

Synonyms and/or components:

Cobalt dichloride or cobalt: • Cobalt metal, metal powder, dust or fume

Chemical Identification: CAS Registry No. 7440-48-4, EINECS 231-158-0

Other substances to which the patient may react (based on cosensitization):

- Nickel
- Chromate

Potential Allergen Sources:

- Cement and bricks;
- Cobalt and cobalt alloys; cobalt catalysts; cobalt fumes, powders and pigments;
- Metalworking fluids and oils;
- Metal tools, jewelry and utensils (as with nickel);
- Paints, inks, glazes and finishes.



Industry & Manufacturing

13. *P*-TERT-BUTYLPHENOL FORMALDEHYDE RESIN

Concentration: 0.045 mg/cm²

Vehicle: Hydroxypropyl cellulose

Allergen patch components: *p*-tert-Butylphenol formaldehyde resin, 0.036 mg

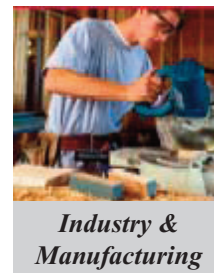
Synonyms and/or components:*p-tert-Butylphenol formaldehyde (PTBP):*

- Paraformaldehyde, formaldehyde, *p-tert*-butylphenol polymer
- Formaldehyde, *p-tert*-butylphenol polymer
- 4-(1,1-Dimethylethyl)phenol, formaldehyde polymer
- *p-tert*-Butylphenol formaldehyde resin (PTBP FR)

Chemical Identification: CAS Registry No. 25085-50-1

Potential Allergen Sources:

- Adhesives and glues in leather and rubber shoe manufacturing and repair; neoprene adhesives; glues for furniture and auto upholstery;
- Construction materials such as laminated wood products;
- Manufacture of fiberglass and mineral fiber insulation; modifiers in resin manufacturing;
- Photosensitive coatings.



14. EPOXY RESIN

Concentration: 0.050 mg/cm²

Vehicle: Hydroxypropyl cellulose

Allergen patch components: Diglycidylether of bisphenol A, 0.032 mg

Synonyms and/or components:*Epoxy resin or diglycidylether of bisphenol A:*

- Bisphenol A diglycidyl ether
- Diphenylol propane diglycidyl ether
- 2,2-Bis(4-glycidyloxyphenyl)propane
- 4,4'-Dihydroxydiphenyldimethylmethane diglycidyl ether
- Diglycidyl bisphenol A
- Diomethane diglycidyl ether
- 4,4'-Isopropylidenediphenol diglycidyl ether

Chemical Identification: CAS Registry No. 1675-54-3, EINECS 216-823-5

Other substances to which the patient may react:

- Bisphenol A-glycidyl methacrylate (or Bis-GMA)
- Tosylamide epoxy resin
- Epoxy resins with diglycidyl ethers of bisphenol F

Potential Allergen Sources:

- Two-component paints, protective coatings and adhesives;
- Manufacturing of epoxy composite products including lightweight equipment, tennis racquets, skis, and circuit boards;
- Electron microscopy embedding media;
- Dental bonding agents and dental restorative materials.



15. CARBA MIX

Concentration: 0.25 mg/cm²

Vehicle: Hydroxypropyl cellulose

Allergen patch components: Diphenylguanidine, 0.067 mg;
Zincdibutylldithiocarbamate, 0.067 mg;
Zincdiethyldithiocarbamate, 0.067 mg

Synonyms and/or components:

Diphenylguanidine:

- N,N'-Diphenylguanidine
- 1,3-Diphenylguanidine

Zincdibutylldithiocarbamate:

- Carbamic acid, dibutylldithio-, zinc complex
- Bis(N,N-dibutylldithiocarbamate)zinc

Zincdiethyldithiocarbamate:

- Zinc bis(diethyldithiocarbamate)
- Diethyldithiocarbamic acid zinc salt
- Zinc diethylcarbamodithioate

Chemical Identification: *Diphenylguanidine* - CAS Registry Nos. 102-06-7,
EINECS 203-002-1

Zincdibutylldithiocarbamate - CAS Registry Nos. 136-23-2,
EINECS 205-232-8

Zincdiethyldithiocarbamate - CAS Registry Nos. 14324-55-1

Other substances to which the patient may react:

Thiuram-based rubber additives that have the potential for cross-reactivity and cosensitization -

- Tetramethylthiuram monosulfide
- Tetremethylthiuram disulfide
- Dipentamethylenethiuram disulfide
- Disulfiram

Potential Allergen Sources:

Used in fungicides, pesticides and the manufacturing of natural rubber, butyl rubber, nitrile or neoprene for:

- Industrial and safety products such as boots, shoes, adhesives, plugs, goggles, mats, headphones, masks, respirators, aprons, gloves, cords, tubing, insulation, and sheeting;
- Office products such as rubber bands, erasers, mats, and utility gloves;
- Health care equipment such as medical and utility gloves, masks, bed sheeting, dental dams, anesthesia equipment, aprons, and tubing;
- Sports equipment and household products such as wetsuits, shoes, boots, masks, racquet and club handles.



16. BLACK RUBBER MIX

Concentration: 0.075 mg/cm²

Vehicle: Polyvidone

Allergen patch components: N-Isopropyl-N'-phenyl paraphenylenediamine, 0.0102 mg;
N-Cyclohexyl-N'-phenyl paraphenylenediamine, 0.0255 mg;
N, N'-Diphenyl paraphenylenediamine, 0.0255 mg

Synonyms and/or components:*N*-Isopropyl-*N'*-phenyl-paraphenylenediamine:• N-Phenyl-*N'*-isopropyl-*p*-phenylenediamine*N*-Cyclohexyl-*N'*-phenyl-paraphenylenediamine:• N-Cyclohexyl-*N'*-phenyl-1,4-benzenediamine*N,N'*-Diphenyl-paraphenylenediamine:• *p*-Phenylaminodiphenylamine• Diphenyl-*p*-phenylenediamine

• 1,4-Dianilinobenzene

• *p*-Bis(phenylamino)benzene• 4,4'-Diphenyl-*p*-phenylenediamine**Chemical Identification:***N*-Isopropyl-*N'*-phenyl-paraphenylenediamine –

CAS Registry Nos: 3085-82-3, EINECS 221-404-5;

N-Cyclohexyl-*N'*-phenyl-paraphenylenediamine –

CAS Registry RN: 101-87-1, EINECS 202-984-9

N,N'-Diphenyl-paraphenylenediamine –

CAS Registry Nos. 74-31-7, EINECS 200-806-4

Potential Allergen Sources:

Antidegradant used in the manufacture of black rubber for: Rubber

- Industrial products such as tires, belts, masks, aprons, gaskets, flanges, stoppers, Chemicals shoes and boots, sheeting and flooring;
- Black rubber components on health care and laboratory equipment;
- Office products made with black rubber components such as feet and wheels on equipment;
- Household products and sports equipment made with black rubber such as masks and goggles, shoes, tires, boots, masks, racquet and club handles.

*Rubber
Chemicals***17. CL+ ME-ISOTHIAZOLINONE (MCI/MI)****Concentration:** 0.0040 mg/cm²**Vehicle:** Polyvidone

Allergen patch components: 5-Chloro-2-methyl-4-isothiazolin-3-one (MCI), 0.0024 mg;
2-Methyl-4-isothiazolin-3-one (MI), 0.0008 mg

Synonyms and/or components:*5-Chloro-2-methyl-4-isothiazolin-3-one:*

• Kathon

• Methylchloroisothiazolinone (MCI)

• 5-Chloro-2-methyl-2H-isothiazol-3-one

2-Methyl-4-isothiazolin-3-one:

• 2-Methyl-3(2H)-isothiazolone

• Methylisothiazolinone (MI)

• 2-Methyl-2H-isothiazol-3-one

Chemical identification:*5-Chloro-2-methyl-4-isothiazolin-3-one* –

CAS Registry Nos. 26172-55-4, EINECS 247-500-7

2-Methyl-4-isothiazolin-3-one –

CAS Registry Nos. 2682-20-4, EINECS 220-239-6,

EPA Pesticide Chemical Code 107104

Other substances to which the patient may react:

- Other chlorinated isothiazolinones

Potential allergen sources:

Biocide and preservative used in industrial and consumer products including:

- Cleaning and laundry products, skin cleansers and shampoos, hair coloring products, hand and body lotions, cosmetics;
- Latex paints, adhesives and glues;
- Industrial metal working fluids.



18. QUATERNIUM-15

Concentration: 0.100 mg/cm²

Vehicle: Hydroxypropyl cellulose

Allergen patch components: Quaternium-15, 0.081 mg

Synonyms and/or components:

Quaternium-15:

- Hexamethylenetetramine chloroallyl chloride
- N-(3-Chloroallyl)hexaminium chloride
- Chloroallyl methenamine chloride
- 3,5,7-Triaza-1-azoniaadamantane, 1-(3-chloroallyl)-, chloride

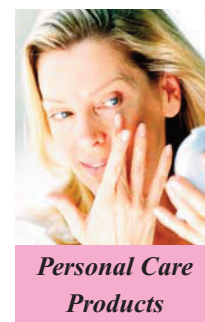
Chemical Identification: CAS Registry Nos. 4080-31-3, EINECS 223-805-0, EPA Pesticide Chemical Code 017901

Other formaldehyde-releasing substances to which the patient may react:

- Formaldehyde or formalin; formic aldehyde; oxymethylene
- Bronopol or 2-bromo-2-nitropropane-1,3-diol
- Diazolidinyl urea or N,N'-bis(hydroxymethyl) urea; 1-(1,3-Bis(hydroxymethyl)-2,5-dioxoimidazolidin-4-yl)-1,3-bis(hydroxymethyl)urea
- DMDM Hydantoin or 1,3-cimethylol-5,5-dimethylhydantoin; 1,3-Bis(hydroxymethyl)-5,5-dimethylimidazolidine-2,4-dione
- Imidazolidinyl urea or imidurea; N,N''-methylenebis(N'-(3-(hydroxymethyl)-2,5-dioxo-4-imidazolidinyl)urea
- Tris nitro or trimethylolnitromethane; nitroisobutylglycerol; 2-nitro-2-(hydroxymethyl)-1,3-propanediol, tris(hydroxymethyl)nitromethane

Potential Allergen Sources:

- Personal care products (cosmetics, hair and hygiene products);
- Household cleaning agents and latex paints;
- Industrial polishes, waxes, inks, paints and metal working fluids.



19. MERCAPTOBENZOTHAZOLE

Concentration: 0.0075 mg/cm²

Vehicle: Polyvidone

Allergen patch components: Mercaptobenzothiazole, 0.061 mg

Synonyms and/or components:*Mercaptobenzothiazole (MBT):*

- 2-Benzothiazolinethione
- Benzothiazole-2-thione
- 2-Mercaptobenzothiazole
- 2-Benzothiazolethiol
- 2-Benzothiazolyl mercaptan

Chemical Identification: CAS Registry Nos. 149-30-4; EINECS 205-736-8

Other substances to which the patient may react:

- Due to cosensitization, rubber additives such as dibutyl thiourea or diphenyl thiourea, often used in rubber products with MBT.

Potential Allergen Sources:

Used in the manufacturing of natural rubber, butyl rubber, nitrile or neoprene for:

- Industrial and safety products such as boots, shoes, adhesives, plugs, goggles, mats, headphones, masks, respirators, aprons, gloves, cords, tubing, insulation, and sheeting;
- Office products such as rubber bands, erasers, mats, and utility gloves;
- Health care equipment such as medical and utility gloves, masks, bed sheeting, dental dams, anesthesia equipment, aprons, and tubing;
- Sports equipment and household products such as utility gloves, swimwear, toys, wetsuits, shoes, boots, masks, racquet and club handles.



Rubber Chemicals

20. P-PHENYLENEDIAMINE

Concentration: 0.090 mg/cm²

Vehicle: Polyvidone

Allergen patch components: *p*-Phenylenediamine, 0.073 mg

Synonyms and/or components:*p*-Phenylenediamine:

- 4-Phenylenediamine
- *p*-Diaminobenzene
- 1,4-Benzenediamine
- Paraphenylenediamine (PPD)
- Phenylenediamine
- 4-Aminoaniline
- 1,4-Diaminobenzene

Chemical Identification: CAS Registry Nos. 106-50-3, EINECS 203-404-7

Other substances to which the patient may react:

- Textile dyes such as aniline yellow (*p*-aminoazobenzene; *p*-dimethylaminoazobenzene) or disperse orange (1-amino-2-methylantraquinone);
- Hair dyes *p*-toluenediamine and *p*-toluenediamine sulfate;
- 4,4'-Methylenedianiline in some rubbers, plastics and epoxy resins;
- Other aminobenzene-related compounds.

Potential Allergen Sources:

- Permanent and semipermanent coloring products for hair and facial hair;
- Temporary, paint-on and black henna tattoos;
- Textile and fur dyes;
- Photodeveloping agents and printing inks;
- Black rubber products.



*Personal Care
Products*

21. FORMALDEHYDE

Concentration: 0.18 mg/cm²

Vehicle: Polyvidone

Allergen patch components: Formaldehyde, 0.15 mg

Synonyms and/or components:

Formaldehyde:

- Formic aldehyde
- Methyl aldehyde
- N-methylol
- Formalin
- Methaldehyde
- Methylene oxide
- Oxymethylene

Chemical Identification: CAS Registry Nos. 50-00-0, EINECS 200-001-8, EPA Pesticide Chemical Code 043001

Other formaldehyde-releasing substances to which the patient may react:

- Bronopol or 2-bromo-2-nitropropane-1,3-diol
- Diazolidinyl urea or N,N'-bis(hydroxymethyl) urea; 1-(1,3-Bis(hydroxymethyl)-2,5-dioxoimidazolidin-4-yl)-1,3-bis(hydroxymethyl)urea
- DMDM Hydantoin or 1,3-cimethylol-5,5-dimethylhydantoin; 1,3-Bis(hydroxymethyl)-5,5-dimethylimidazolidine-2,4-dione
- Imidazolidinyl urea or imidurea; N,N"-methylenebis(N'-(3-(hydroxymethyl)-2,5-dioxo-4-imidazolidinyl)urea
- Tris nitro or trimethylolnitromethane; nitroisobutylglycerol; 2-nitro-2-(hydroxymethyl)-1,3-propanediol, tris(hydroxymethyl)nitromethane

Potential Allergen Sources:

- Pressed wood construction materials (particleboard, fiberboard, plywood), and urea-formaldehyde resins and foams;
- Durable press fabrics;
- Personal care products (cosmetics, hair and hygiene products);
- Metal working fluids, glues, cleaning agents, latex paints, polishes, waxes, inks;
- Embalming and preserving fluids.



*Personal Care
Products*

22. MERCAPTO MIX

Concentration: 0.075 mg/cm²

Vehicle: Polyvidone

Allergen patch components: N-Cyclohexylbenzothiazyl-sulfenamide, 0.0203 mg;
Dibenzothiazyl disulfide, 0.0203 mg;
Morpholinylmercaptobenzothiazole, 0.0203 mg

Synonyms and/or components:*N-Cyclohexylbenzothiazyl-sulfenamide:*

- 2-(Cyclohexylaminothio)benzothiazole

- Cyclohexyl benzothiazolesulfenamide
- Benzothiazyl-2-cyclohexylsulfenamide

Dibenzothiazyl disulfide:

- Dibenzothiazolyl disulfide
- 2,2'-Dibenzothiazyl disulfide

- 2,2'-Dithiobis(benzothiazole)
- 2,2'-Bis(benzothiazolyl) disulfide
- 2-Mercaptobenzothiazole disulfide

Morpholinylmercaptobenzothiazole:

- 2-Morpholinodithiobenzothiazole
- 4-Morpholinyl 2-benzothiazyl disulfide

- 2-Benzothiazolyl morpholino disulfide
- Benzothiazole 2-(4-morpholinyl)
- Benzothiazole, 2-(4-morpholinyl)dithio)

Chemical Identification: *N-Cyclohexylbenzothiazyl-sulfenamide* – CAS Registry Nos. 95-33-0, EINECS 202-411-2

Dibenzothiazyl disulfide – CAS Registry Nos. 120-78-5, EINECS 204-424-9, EPA Pesticide Chemical Code 009202

Morpholinylmercaptobenzothiazole – CAS Registry Nos. 95-32-9, EINECS 202-410-7

Other substances to which the patient may react:

- Due to cosensitization, commonly used rubber additives such as thioureas.

Potential Allergen Sources:

Used in the manufacturing of natural rubber, butyl rubber, nitrile or neoprene for:

- Industrial and safety products such as boots, shoes, adhesives, plugs, goggles, mats, headphones, masks, respirators, aprons, gloves, cords, tubing, insulation, and sheeting;
- Office products such as rubber bands, erasers, mats, and utility gloves;
- Health care equipment such as medical and utility gloves, masks, bed sheeting, dental dams, anesthesia equipment, aprons, and tubing;
- Sports equipment and household products such as gloves, swimwear, toys, wetsuits, footwear, masks, racquet and club handles.

**Rubber
Chemicals**



23. THIMEROSAL

Concentration: 0.0080 mg/cm²

Vehicle: Hydroxypropyl cellulose

Allergen patch components: Thimerosal, 0.0065 mg

Synonyms and/or components:*Thimerosal:*

- Mercurothiolate
- Sodium ethylmercurithiosalicylate
- Mercury, ((o-carboxyphenyl)thio)ethyl-, sodium salt
- Merthiolate
- Sodium 2-(ethylmercurithio)benzoate
- Mercury, ethyl(2-mercaptobenzoato-S)-, sodium salt

Chemical Identification: CAS Registry Nos. 54-64-8, EINECS 200-210-4, EPA Pesticide Chemical Code 078901

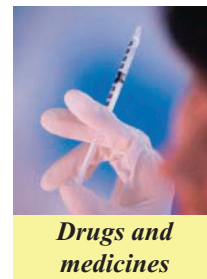
Other substances to which the patient may react:

- Other mercurial compounds
- Thiosalicylic acid derivatives such as piroxicam (Feldene®)

Potential Allergen Sources:

Infrequently used as a preservative in:

- Some vaccines and ophthalmic, otic and nasal preparations;
- Some fluorescent dyes in metal and forensic industries;
- Some thiosalicylic acid-based nonsteroidal anti-inflammatories.



24. THIURAM MIX

Concentration: 0.025 mg/cm²

Vehicle: Polyvidone

Allergen patch components: Tetramethylthiuram monosulfide, 0.0051 mg;
Tetramethylthiuram disulfide, 0.0051 mg;
Disulfiram, USP, 0.0051 mg;
Dipentamethylenethiuram disulfide, 0.0051 mg

Synonyms and/or components:

Tetramethylthiuram monosulfide:

- Tetramethylthiuram sulfide
- Sulfide, bis(dimethylthiocarbamoyl)

- Tetramethyldithiocarbamic acid anhydrosulfide
- Bis(dimethylthiocarbamoyl) sulfide

Tetramethylthiuram disulfide:

- Bis(dimethyl thiocarbamoyl)disulfide
- Tetramethylthiocarbamoyldisulphide

- Thiram
- Tetramethylthioperoxydicarbonic diamide
- N,N'-(Dithiodicarbonothioyl) bis(N-methylmethanamine)

Disulfiram:

- Bis(N,N-diethylthiocarbamoyl) disulfide
- Tetraethylthioperoxydicarbonic diamide

- Tetraethylthiuram disulfide
- 1,1'-Dithiobis(N,N-diethylthioformamide)

Dipentamethylenethiuram disulfide:

- Bis(pentamethylene)thiuram disulfide

- Disulfide, bis(1-piperidinylthioxomethyl)
- 1,1'-(Dithiodicarbonothioyl)bispiperidine

Chemical Identification: Tetramethylthiuram monosulfide - CAS RN: 97-74-5, EINECS 202-605-7;
Tetramethylthiuram disulfide - CAS Registry Nos. 137-26-8, EINECS 205-286-2, EPA Pesticide Chemical Code 079801;
Disulfiram - CAS Registry Nos. 97-77-8, EINECS 202-607-8;
Dipentamethylenethiuram disulfide - CAS Registry Nos. 94-37-1, EINECS 202-328-1

Other substances to which the patient may react:

- Carbamates (carba mix), due to either cross-reactivity or cosensitization;
- Other rubber additives due to cosensitization.

Potential Allergen Sources:

Used in fungicides, pesticides, seed protectants, animal repellants, Antabuse® and the manufacturing of natural rubber, butyl rubber, nitrile or neoprene for:

- Industrial and safety products such as boots, shoes, adhesives, plugs, goggles, mats, headphones, masks, respirators, aprons, gloves, cords, tubing, insulation, and sheeting;
- Office products such as rubber bands, erasers, mats, and utility gloves;
- Health care equipment such as medical and utility gloves, masks, bed sheeting, dental dams, anesthesia equipment, aprons, and tubing;
- Sports equipment and household products such as toys, gloves, swimwear, wetsuits, shoes, boots, masks, racquet and club handles.

**25. DIAZOLIDINYL UREA (GERMALL® II)**

Concentration: 0.55mg/cm²

Vehicle: Polyvidone

Allergen component per patch: Diazolidinyl urea, 0.45 mg

Synonyms or components:

Diazolidinyl urea:

- Germall 11
- Imidazolidinyl urea 11
- N-(1,3-Bis(hydroxymethyl)-2,5-dioxo-4-imidazolidinyl)-N,N'-bis(hydroxymethyl)urea
- N-(Hydroxymethyl)-N-(1,3-dihydroxymethyl-2,5-dioxo-4-imidazolidinyl)-N'-(hydroxymethyl) urea
- N-(Hydroxymethyl)-N-(1,3-dihydroxymethyl-2,5-dioxo-4-imidazolidinyl)-N'-(hydroxymethyl)urea

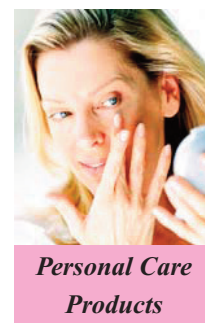
Chemical Identification: CAS Registry Nos. 78491-02-8,
EINECS Nos. 278-928-2

Other substances to which the patient may react:

- Imidazolidinyl urea
- Formaldehyde
- Bronopol
- Quaternium 15
- Dimethyl dimethyl hydantion

Potential Allergen Sources:

- Products for personal care, hygiene, and hair care;
- Cosmetics;
- Cleaning agents;
- Liquid soaps;
- Pet shampoos.



Potential Allergen Sources:

Used in fungicides, pesticides, seed protectants, animal repellants, Antabuse® and the manufacturing of natural rubber, butyl rubber, nitrile or neoprene for:

- Industrial and safety products such as boots, shoes, adhesives, plugs, goggles, mats, headphones, masks, respirators, aprons, gloves, cords, tubing, insulation, and sheeting;
- Office products such as rubber bands, erasers, mats, and utility gloves;
- Health care equipment such as medical and utility gloves, masks, bed sheeting, dental dams, anesthesia equipment, aprons, and tubing;
- Sports equipment and household products such as toys, gloves, swimwear, wetsuits, shoes, boots, masks, racquet and club handles.

**25. DIAZOLIDINYL UREA (GERMALL® II)**

Concentration: 0.55mg/cm²

Vehicle: Polyvidone

Allergen component per patch: Diazolidinyl urea, 0.45 mg

Synonyms or components:

Diazolidinyl urea:

- Germall 11
- Imidazolidinyl urea 11
- N-(1,3-Bis(hydroxymethyl)-2,5-dioxo-4-imidazolidinyl)-N,N'-bis(hydroxymethyl)urea
- N-(Hydroxymethyl)-N-(1,3-dihydroxymethyl-2,5-dioxo-4-imidazolidinyl)-N'-(hydroxymethyl) urea
- N-(Hydroxymethyl)-N-(1,3-dihydroxymethyl-2,5-dioxo-4-imidazolidinyl)-N'-(hydroxymethyl)urea

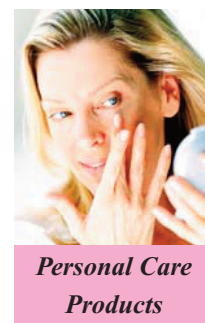
Chemical Identification: CAS Registry Nos. 78491-02-8,
EINECS Nos. 278-928-2

Other substances to which the patient may react:

- Imidazolidinyl urea
- Formaldehyde
- Bronopol
- Quaternium 15
- Dimethyl dimethyl hydantion

Potential Allergen Sources:

- Products for personal care, hygiene, and hair care;
- Cosmetics;
- Cleaning agents;
- Liquid soaps;
- Pet shampoos.



26. IMIDAZOLIDINYL UREA (GERMALL® 115)

Concentration: 0.60mg/cm²

Vehicle: Polyvidone

Allergen component per patch: Imidazolidinyl urea, 0.49 mg

Synonyms or components:

Imidazolidinyl urea (Germall® 115):

- Imidazolidinyl urea
- Imidurea
- Urea, N,N"-methylenebis(N'-(3-(hydroxymethyl)-2,5-dioxo-4-imidazolidin-yl urea
- N,N"-Methylenebis(N'-(1-(hydroxymethyl)-2,5-dioxo-4-imidazolidin-yl)-

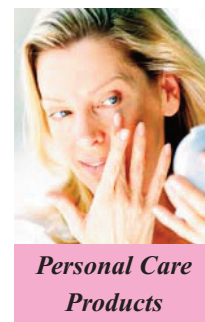
Chemical Identification: CAS Registry Nos. 39236-46-9, EINECS Nos. 254-372-6,
Other Registry Nos. 82852-50-4

Other substances to which the patient may react:

- Diazolidinyl urea
- Formaldehyde
- Bronopol
- Quaternium 15
- Dimethyl dimethyl hydantion

Potential Allergen Sources:

- Products for personal care, hygiene, and hair care;
- Cosmetics;
- Cleaning agents;
- Liquid soaps;
- Moisturizers.



27. BUDESONIDE

Concentration: 0.0010mg/cm²

Vehicle: Polyvidone

Allergen component per patch: 0.00081 mg

Synonyms or components:

Budesonide:

- (11-beta,16-alpha)-16,17-(Butylidenebis(oxy))-11,21-dihydroxypregna-1,4-diene-3,20-dione
- (RS)-11beta,16alpha,17,21-Tetrahydroxypregna-1,4-diene-3,20-dione cyclic 16,17-acetal with butyraldehyde
- 16-alpha,17-alpha-Butylidenedioxy-11-beta,21-dihydroxy-1,4-pregnadiene-3,20-dione
- Bidien
- Budeson
- Rhinocort
- Spirocort
- Entocort

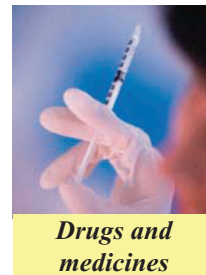
Chemical Identification: CAS Registry Nos. 51333-22-3,
EINECS Nos. 257-139-7

Other substances to which the patient may react:

- Amcinonide
- Hydrocortisone-17-butyrate
- Hydrocortisone-17-aceponate
- Hydrocortisone buteprate
- Methylprednisolone aceponate
- Prednicarbate
- Triamcinoline

Potential Allergen Sources:

- Anti-Inflammatory agents;
- Creams, lotions, ointments, and powders;
- Ear, Nose, and eye drops;
- Inhalation drugs, tablets, and injectables;
- Rectal suspension (colitis treatments).



28. TIXOCORTOL-21-PIVALATE

Concentration: 0.0030 mg/cm²

Vehicle: Polyvidone

Allergen component per patch: Tixocortol-21-Pivalate, 0.0024 mg

Synonyms or components:

Tixocortol-21-Pivalate:

Tixocortol pivalate [USAN]

11beta,17-Dihydroxy-21-mercaptopregn-4-ene-3,20-dione 21-pivalate Pivalone

Pregn-4-ene-3,20-dione, 21-((2,2-dimethyl-1-oxopropyl)thio)-11,17-dihydroxy-, (11beta)-)

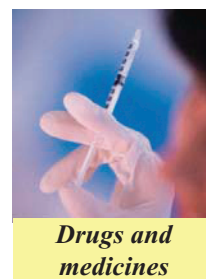
Chemical Identification: CAS Registry Nos. 55560-96-8,
EINECS Nos. 259-706-4

Other substances to which the patient may react:

- Cloprednol
- Hydrocortisone
- Hydrocortisone acetate
- Prednisolone
- Fludrocortisone acetate
- Hydrocortisone 17-butyrate

Potential Allergen Sources:

- Anti-inflammatory agents/ prescription and non prescription;
- Nasal suspensions for rhinitis;
- Lozenges for pharyngitis;
- Rectal suspension for ulcerative colitis.



29. QUINOLINE MIX

Concentration: 0.19mg/cm²

Vehicle: Polyvidone

Allergen patch components: Quinoline mix, 0.15 mg

Synonyms or components:

Quinoline mix:

- 1-Azanaphthalene
- 1-Benzazine
- 2,3-Benzopyridine
- Benzo(b)pyridine
- Benzopyridine
- Chinoleine
- Chinoline
- Leucol

Quinoline Mix components:

- Clioquinol
- Clorquinaldol

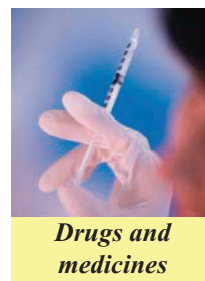
Chemical Identification: CAS Registry Nos. 91-22-5,
EINECS Nos. 202-051-6,
Other Registry Nos. 20214-07-7,
FEMA No. 3470

Other substances to which the patient may react:

- Vioform
- Diodoquin
- Quinoloar

Potential Allergen Sources:

- Paste bandages;
- Prescription and non prescription preparations as: topical antibiotics and antifungal creams, lotions, ointments;
- Animal food;
- Bacteriostatic and fungistatic cream (eg. Sterosan Cream).



PATCH COMPOSITION

Tape Composition: Rayon fibers

Patch Composition: Polyester

Adhesive Composition: Vinyl-acetate, 2-ethyl-hexyl-acrylate, hydroxy-ethyl-methacrylate, glycidyl-methacrylate.

1 Nickel – Patient Information

Your T.R.U.E. TEST results indicate that you have a contact allergy to nickel. This contact allergy may cause your skin to react when it is exposed to this substance, although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters. Nickel is one of the most common metals in the modern environment, both at work and at home and reportedly causes more dermatitis than all other metals combined. Exposure to both metallic nickel (only after corrosion) and nickel salts may cause sensitization or the elicitation of an allergic response in a previously sensitized individual. The corrosive effects of human sweat, saliva and other body fluids on metallic nickel and nickel alloys being of primary importance.

It is used in metal alloys, nickel plating, metal and chemical manufacturing, and the production of batteries and coins. Nickel is often used to coat other metals to give them a shiny metallic finish. Nickel is found on the surface of common metallic and metal plated items such as; metal jewelry, watchbands, keys, tools, equipment, scissors, kitchen utensils coins and clothing fasteners such as buttons, zippers and snaps and is occasionally found in eye cosmetics. While nickel is found in stainless steel, allergic reactions to products made with stainless steel (for example, dental and surgical instruments) are rare because typically only minimal amounts are released.

Where is nickel found?



At work, you may find nickel in or around:

- Metal alloys
- Welding and cutting
- Copper-nickel tubing for salt water
- Nickel plating
- Machine parts
- Metalworking fluids and oils
- Chemical catalysts
- Batteries
- Aluminum electrical joint compounds
- Dyes
- Equipment
- Insecticides
- Orthodontic and dental appliances



At home, you may find nickel in or around:

- Zippers
- Keys
- Scissors
- Batteries
- Metal utensils
- Hand tools
- Magnets
- Buttons and snaps
- Chrome and brass
- Jewelry
- Metallic powders
- Eyeshadow
- Some white or 14-kt gold jewelry
- Coins
- Watchbands
- Some bronze objects
- Pigments
- Some objects with white or 14-kt gold
- Hair ornaments
- Knitting needles
- Eyeglasses

Dietary exposure to nickel can provoke dermatitis in sensitized individuals. Foods reported to be high in nickel include: legumes; whole grain flour; oats; soybeans; shellfish; fish; asparagus, beans, mushrooms, onions, corn, spinach, tomatoes, peas, pears, all types of nuts, raisins, rhubarb, tea, cocoa, baking powder, cabbage, sprouts, all canned foods or foods cooked in nickel utensils, licorice; chocolate and potatoes. A recent study reported systemic contact dermatitis to nickel was also found in several complementary and alternative remedies (CAR), including preparations advertised to treat asthma, acne, atopic eczema, seborrhea and psoriasis. Herbal remedies, herbal teas and some OTC multi-vitamins have also been listed as sources of potential nickel exposure. Food containing nickel is generally not a problem but if you are severely allergic discuss with your physician about avoiding foods that are rich in nickel.

1 Nickel

How can you avoid nickel?

- Minimize skin contact with nickel. Aluminum, yellow gold, silver and platinum are usually safe alternative metals.
- Avoid wearing jewelry that may contain nickel.
- Look for clothing with non-metallic zippers and fasteners.
- Use scissors, kitchen utensils, combs and other metal items with plastic or wood handles.
- Never wear earrings that are not guaranteed to be safe for nickel.
- Select a watch with a controlled stainless steel back.
- Metallic items that are difficult to avoid contact with such as door keys and doorknobs can be coated with several layers polyurethane lacquer.
- Minimize wet work without protective clothing as moisture increases the penetration of nickel into the skin.
- Only use products that do not list nickel or related chemicals on the label, ingredients list or Material Safety Data Sheet (MSDS). If there is no information, contact the product manufacturer.
- If you think that you contact nickel at work, ask your employer for MSDS or manufacturer information on the product(s). Talk to your employer about using a different product or wearing protective gloves and clothing.
- Inform your healthcare providers that you are allergic to nickel.
- Wear protective gloves made of cotton when handling coins, tools or other metal items. Gloves made of disposable rubber or vinyl are also useful when handling metal objects.
- Jewelry and other metal objects can be easily tested for the presence of nickel with a dimethylglyoxime test (sold as Allertest™ Ni). Available from Allerderm Laboratories, www.allerderm.com.
- Tell your physician, pharmacist, dentist, beautician and hairdresser that you are allergic to nickel.

What should you look for and avoid?*

Avoid products that list any of the following names in the ingredients, MSDS or package insert.

- **Nickel sulfate** (NiSO_4) or nickel soluble salts; nickel (Ni); carbonyl nickel powder; nickel alloys; nickel-plating; elemental nickel; nickel catalyst

You may also react to other metal substances that are present together with nickel:

- Palladium
- Cobalt
- Chrome (or chromate)

What are some products that may contain nickel?*

- Alnox (Standard) Electrical Joint Compound
- Orthodontic appliances
- Metal costume jewelry, piercings, and hair ornaments
- Some jewelry with white gold, 14-karat yellow gold, chrome, bronze, or brass
- Some foods such as legumes, nuts, grains, fish, chocolate, potatoes (canned foods may be higher)
- Metal tools, equipment, utensils and keys
- Coins (U.S. nickels, 1-Euro and 2-Euro)
- Metal fasteners including buttons, zippers, snaps, hooks, rivets, buckles, pins
- Quikcrete® Color-Pak (colorant for cement and concrete)
- Silver jewelry, decorative silver and silver-plated items

1 Nickel

What are some similar products that do NOT contain nickel?*

- Plastic, gold (18k).
- Titanium orthodontic materials and ceramic brackets
- Select foods from a low-nickel diet; avoid canned foods (dietary changes do not help all patients)

*For additional information about products that might contain nickel or a related substance, go to the Household Product Database online (<http://householdproducts.nlm.nih.gov>) at the United States National Library of Medicine. These lists are brief and provide just a few examples. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have questions. These are general guidelines. Talk to your doctor for more specific instructions.

2 Wool Alcohols (Lanolin) – Patient Information

Your T.R.U.E. TEST results indicate that you have a contact allergy to wool alcohols, also known as lanolin. This contact allergy may cause your skin to react when it is exposed to this substance, although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters.

Wool alcohols are a natural product obtained from the fleece of sheep and are commonly used in cosmetics, toiletries and medicines.

Where are wool alcohols (or lanolin) found?



At work, you may find wool alcohols (or lanolin) in:

- Manufacture and use of personal care products such as hand lotions and cosmetics.
- Manufacture and use of pet care or veterinary products
- Metalworking fluids including lubricants, cutting fluids and corrosion inhibitors
- Polishes and waxes
- Printing inks
- Impregnating agents for textile, leather goods and furs
- Insulation for wiring



At home, you may find wool alcohols (or lanolin):

- Cosmetics such as foundations, powders, blush, mascaras, eye shadows, eyeliners, eye pencils
- Skin care products such as balms, creams, ointments, lotions and moisturizers.
- Personal hygiene items such as soaps, cleansers and shampoos
- Lipsticks and lip balms
- Facial masks
- Sunscreens
- Over-the-counter and prescription treatments for skin rashes or dermatitis
- Pet shampoos, conditioners and grooming aids
- Hair removers and shaving products
- Nail enamel remover
- Baby oil
- Diaper lotion
- Hair spray
- Hemorrhoid preparation
- Household polishes and waxes
- Shoe polishes

2 Wool Alcohols (Lanolin)

How can you avoid wool alcohols or lanolin?

- Don't use products with wool alcohols or lanolin on your skin, hair or body. Only use products that do not list wool alcohols, lanolin, or related chemicals on the label, ingredients list or Material Safety Data Sheet (MSDS). If there is no information, talk to your pharmacist or doctor.
- Tell your physician, pharmacist, dentist, veterinarian, beautician and hairdresser that you are allergic to wool alcohols or lanolin. Ask for preparations that do not contain wool alcohols (lanolin) or related substances.
- If you must use or contact wool alcohols or lanolin when caring for children or pets, wear protective gloves and clothing. Utility gloves made of natural or synthetic rubber, or vinyl, are good for working with wool alcohols (or lanolin).
- If you think that you contact wool alcohols or lanolin at work, ask your employer for MSDS or manufacturer information on the product(s). Talk to your employer about using a different product or wearing protective gloves and clothing.

What should you look for and avoid?*

Avoid products that list any of the following names in the ingredients, MSDS or package insert.

- **Wool alcohols (lanolin)** or anhydrous lanolin; wool fat or grease; wool wax; wool grease fatty acid; wool fats and glyceridic oils; fats, lanolin; Adeps lanae; Degras

What are some products that may contain lanolin or wool alcohols?*

- Old Spice® Moisturizing Shave Cream
- Burt's Bees® Beeswax Lip Balm
- Desitin® Diaper Rash Ointment
- Eucerin® Original Moisturizing Lotion
- Revlon® Cuticle Massage Cream
- Maybelline® Great Lash Washable Mascara
- Nair® 4 Minute Lotion Hair Remover with Aloe & Lanolin
- Vermont's Original Bag Balm®
- Browshaper & Eyeliner By Cover Girl®
- Max Factor® Pan-Cake Makeup
- Simple Green® Hand Gel
- Lubriderm® Daily Moisture Lotion
- Bio-Groom® Conditioning Shampoo (pets)
- Maybelline® Wet Shine Diamonds Lipstick

What products do NOT contain lanolin or wool alcohols?*

- Almay® The Insider Mascara
- U-Lactin® Therapeutic Body Lotion
- Cetaphil® Moisturizing Cream
- Burt's Bees® Natural Cosmetics Two in One Eyeliner & Eyebrow Pencil
- Veet® Mousse Hair Remover
- Neutrogena® MoistureShine Tinted Lip Balm
- Nivea® for Men
- Lubrex® Hand Cream
- L'Oreal® Air Wear Powder Foundation
- Nivea® for Men After Shave and Shaving Gel
- Almay® Clear Complexion Pressed Powder

*For additional information about products that might contain wool alcohols or lanolin, or a related substance, go to the Household Product Database online (<http://householdproducts.nlm.nih.gov>) at the United States National Library of Medicine. These lists are brief and provide just a few examples. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have questions. These are general guidelines. Talk to your doctor for more specific instructions.

3 Neomycin – Patient Information

Your T.R.U.E. TEST results indicates that you have a contact allergy to neomycin. This contact allergy may cause your skin to react when it is exposed to this substance, although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters.

Neomycin is a commonly used topical antibiotic that may be found in both prescription medicines and over-the-counter first aid preparations.

Where Is Neomycin Found?



At work, you may find neomycin in the manufacturing of topical medicines (skin, eyes and ears) and their use in people and animals.

- Veterinary medicines for skin, eyes and ears
- Topical antibiotics for skin, eyes and ears



At home, you may also find neomycin in first aid medicines and topical preparations used to treat skin, eye and ear infections. Neomycin may be used with other antibiotics and agents that reduce itching and swelling.

- Antibiotic creams, lotions and ointments
- Eye medications
- Pet care and veterinary products
- Ear medications

You may need to avoid other related antibiotics. Some people with neomycin contact allergies will also react to framycetin, bacitracin, or gentamicin. These are also topical medicines used to treat skin, ear and eye infections.

Some people may have reactions to a few antibiotics that are usually given by injection, such as kanamycin. Talk to your doctor if you have any questions or have reacted to these antibiotics.

How can you avoid neomycin?

- Check all topical antibiotic preparations (prescription and over-the-counter) for neomycin. Do not use products that list neomycin or related chemicals on the label, package insert or ingredients list. If there is no information, talk to your pharmacist or contact the manufacturer.
- Tell your physician, pharmacist, dentist and veterinarian that you are allergic to neomycin. Ask for preparations that do not contain neomycin or related substances.
- If you must use or contact neomycin when caring for children or pets, wear protective gloves. Utility gloves made of natural or synthetic rubber, or vinyl, are good for working with most neomycin preparations.
- If you think that you contact neomycin at work, ask your employer for Material Safety Data Sheet (MSDS) or manufacturer information on the product(s). Talk to your employer about using a different product or wearing protective gloves and clothing.

3 Neomycin

What should you look for and avoid?*

Avoid products that list any of the following names in the ingredients, MSDS or package insert.

- **Neomycin sulfate** or neomycin B sulfate

You may also react to other topical antibiotics related to neomycin or that are used with neomycin:

- Framycetin
- Gentamycin
- Bacitracin – many people with neomycin allergies are also allergic to bacitracin

You may also react to neomycin-related injectable antibiotics:

- Kanamycin
- Streptomycin
- Mycifradin
- Butirosin
- Sisomycin
- Spectinomycin
- Paromomycin
- Fradiomycin

What are some products that may contain neomycin and neomycin related substances?*

- Neosporin® Antibiotic Ointment
- Generic neomycin antibiotic ointment
- Neosporin®+Pain Relief Ointment and Cream
- Cortisporin® Cream
- Bactine® Pain Relieving Protective Antibiotic
- Cortisporin® TC Otic Suspension
- Animax® Cream/Ointment (veterinary)
- Cortisporin® Ophthalmic Suspension
- Panalog® Ointment (veterinary)

What products do NOT contain neomycin and neomycin related substances?*

- Otomax® ointment (veterinary; contains gentamycin)
- Polysporin® First Aid antibiotic cream and powder (contains bacitracin)
- Bactroban® Nasal
- Bactroban® cream
- Polysporin® Eye/Ear Drops
- Chloromycetin® Ophthalmic
- Betadine ointment
- Vetrachloracin® ointment (veterinary)

*For additional information about products that might contain neomycin or a related substance, visit the United States National Library of Medicine online (<http://www.nlm.nih.gov/>). These lists are brief and provide just a few examples. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have questions. These are general guidelines. Talk to your doctor for more specific instructions.

4 Potassium Dichromate – Patient Information

Your T.R.U.E. TEST results indicate that you have a contact allergy to potassium dichromate, a form of chromium. Chromium salts or chromates in contact with your skin may result in dermatitis. This contact allergy may cause your skin to react when it is exposed to this substance, although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters.

Potassium dichromate is a chromium salt or chromate and is a common metal making up a significant part of the earth's crust. Chromium and chromates occur naturally in our environment, including soil and water. They are also commonly found in products made of chrome and stainless steel, cement and leather.

Where is potassium dichromate (or chromium) found?



At work, you may find chromates or chromium in:

- Construction materials such as cement, mortar, concrete, bricks, plaster, drywall
- Leather tanning and product manufacturing
- Primers and chromate-based pigments in paints
- Cutting oils, corrosion inhibitors, oils, fuels and drilling muds
- Liners in high temperature industrial furnaces
- Pyrotechnics
- Printing inks
- Manufacturing, plating and metal working with chrome alloys and stainless steel
- Orthopedic and dental implants, dental prosthesis
- Wood preservative manufacturing
- Green dyes used in felt and textiles
- Chrome alloy welding fumes
- Chromic surgical gut sutures



At home, you may find chromates or chromium in:

- Orthopedic and dental implants, dental prosthesis
- Leather products including shoes, boots, gloves
- Pigments in inks and paints
- Construction materials such as cement, mortar, concrete, bricks, plaster, drywall
- Green dyes used in felt and textiles
- Make up
- Foods and vitamin supplements
- Pressure-treated wood
- Household repair materials

4 Potassium Dichromate

How can you avoid potassium dichromates (or chromium)?

- Allergic skin reactions to chromates (or chromium) can become severe and chronic. Because of this, it's important to avoid touching chromates or inhaling chrome alloy fumes or getting them on your clothing.
- Only use products that do not list chromates (or chromium) or related chemicals on the label, ingredients list or Material Safety Data Sheet (MSDS). If there is no information, contact the product manufacturer.
- Avoid tanned leather products unless vegetable tannins have been used. Use instead vegetable tanned leather shoes or plastic shoes. For those with shoe dermatitis from chromate and leather, wearing heavy socks and reducing perspiration and moisture may help to reduce dermatitis.
- Do not handle burnt matches or ash. Use a lighter instead
- In the workplace, avoid wet cement and mortar. Even the dust or fumes from chromate-containing products should be avoided. Chromate reduced cement added ferrous sulfate is an alternative. Change oils and cutting fluids often in machine work.
- Tell your physician, pharmacist, dentist, veterinarian, beautician and hairdresser that you are allergic to chromates (or chromium). Ask for preparations that do not contain chromates or related substances.
- Wear protective gloves and clothing. Heavy-duty and utility gloves made of natural or synthetic rubber, or vinyl, may provide enough protection for working with products that contain chromates (or chromium). Heavy-duty fabric or canvas gloves may be substituted for leather gloves.
- If you think that you contact chromates (or chromium) at work, ask your employer for MSDS or manufacturer information on the product(s). Talk to your employer about using a different product or wearing protective gloves and clothing.

What should you look for and avoid?*

Avoid products that list any of the following names in the ingredients, MSDS or package insert.

- **Potassium dichromate** or dipotassium dichromate (or bichromate); chromium compounds; chromium and chromium salts; chromium metal or chrome; chromic acid salts

What are some products that may contain potassium dichromates (or chromium)?*

- Ethicon® Chromic Surgical Gut Sutures
- Butan 129 chrome leather tanning agent
- Chromated copper arsenate wood preservative
- Chrome-nickel alloy dental crowns

What products do NOT contain potassium dichromates (or chromium)?*

- Ethicon® Plain Surgical Gut Sutures
- Butan 1903 aldehyde-based tanning agent
- ACQ wood preservatives (water-based copper agent)
- Porcelain dental crowns and titanium dental implants and prostheses

*For additional information about products that might contain potassium dichromate or a related substance, go to the Household Product Database online (<http://householdproducts.nlm.nih.gov>) at the United States National Library of Medicine. These lists are brief and provide just a few examples. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have questions. These are general guidelines. Talk to your doctor for more specific instructions.

5 Caine Mix – Patient Information

Your T.R.U.E. TEST results indicate that you have a contact allergy to caine mix. Caine mix substances in contact with your skin may result in dermatitis. This contact allergy may cause your skin to react when it is exposed to these substances, although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters.

Caine mix contains the following three allergens:

- Benzocaine, SP
- Tetracaine hydrochloride, USP
- Dibucaine hydrochloride, USP

These substances are local anesthetics used in topical over-the-counter and prescription products to numb or soothe the skin.

Where is caine mix found?



At work, you may find caine mix or one of its components in:

- Manufacture of medicines containing benzocaine, tetracaine or dibucaine
- First aid analgesics and antiseptics with benzocaine, tetracaine or dibucaine



At home, you may find caine mix or one of its components in:

- Over-the-counter first aid treatments for the pain and itching of injured skin
- Prescription therapies for ear and eye inflammation
- Sprays and lozenges for coughs and sore throat
- Hemorrhoid treatments

Benzocaine and related anesthetics are also found in some products for athlete's foot, calluses, warts and corns. You may also react to sunscreens and creams containing Para-aminobenzoic acid (PABA) and to permanent hair dyes.

How can you avoid caine mix or one of its components?

- Check all topical skin, eye and ear preparations (prescription and over-the-counter) for caine mix or one of its components. Only use products that do not list benzocaine, tetracaine or dibucaine on the label, ingredients list or package insert. If there is no information, talk to your pharmacist or contact the product manufacturer.
- Tell your physician, pharmacist, dentist, veterinarian, beautician and hairdresser that you are allergic to caine mix. Ask for preparations that do not contain caine mix or its components.
- If you must use products that contain caine mix on pets or children, wear protective gloves. Utility gloves made of natural or synthetic rubber, or vinyl, are good for working with most preparations that contain caine mix or its components.
- If you think that you've come in contact caine mix or its components at work, ask your employer for Material Safety Data Sheet (MSDS), package insert or manufacturer information on the product(s). Talk to your employer about using a different product or wearing protective gloves and clothing.

5 Caine Mix

What should you look for and avoid?*

Avoid products that list any of the following names in the ingredients or package insert:

- **Benzocaine** or 4-carbethoxyaniline; ethyl PABA; benzoic acid, 4-amino-, ethyl ester; ethyl 4-aminobenzoate
- **Tetracaine** or dimethylaminoethyl p-butyl-aminobenzoate; benzoic acid, 4-(butylamino)-, 2-(dimethylamino)ethyl ester
- **Dibucaine** or cinchocaine; -butyloxycinchoninic acid diethylethylenediamide; 2-butoxyquinoline-4-carboxylic acid diethylaminoethylamide

Benzoic Acid Derivatives:

- | | | |
|----------------------------|-----------------------------|-------------------------------|
| • Metabutethamine | • Amylocaine | • Metabutozycaine |
| • Procaine | • Benzamine | Risocaine |
| • Proparacaine | • Naepaine | Piperocaine hydrochloride |
| • Benoxinate hydrochloride | • Cyclomethycaine | Chloroprocaine hydrochloride |
| • Butamben Picrate | • Orthocaine | Hexylcaine hydrochloride |
| • Cocaine hydrochloride | • Meprylcaine hydrochloride | Meta-aminobenzoic acid esters |
| • Butacaine | • Propoxycaine | Proparacaine hydrochloride |

Other Agents:

- | | | |
|----------------------------------|--|-----------------------------|
| • Procainamide – anti-arrhythmic | • Sulfonyleureas – antidiabetic agent | • Para-aminosalicylic acid |
| • PABA esters – sunscreens | • Para-aminobenzoic acid | (p-amino-salicylic acid) |
| • Hydrochlorothiazide – diuretic | (p-amino-benzoic acid) | (PAS) – antimicrobial agent |
| • Aniline dyes | (PABA) – sunscreens | |
| • Sulfonamides – antibiotics | • Paraphenylenediamine (p-phenyl-enediamine) hair and fur dyes | |

What are some products that may contain benzocaine, tetracaine or dibucaine?*

- | | |
|---|---|
| • Lanacane Maximum Strength Anti-Itch Medication | • Ungentine® Maximum Strength Pain Relieving/Antiseptic Cream |
| • Orajel® Maximum Strength Gel Oral Pain Reliever | • Chloraseptic® Sore Throat Lozenges |
| • TRITOP® | • Oticaine Otic |
| • Anbesol® – Baby Oral Anesthetic Gel | • Amethocaine Ophthalmic Anesthetics |
| • NEO-PREDEF® with Tetracaine | |
| • Lanacane® Anti-Bacterial First Aid Spray | |

5 Caine Mix

What products do NOT contain benzocaine, tetracaine or dibucaine?*

- Aveeno® Anti-Itch Gel Spray
- Caladryl® Clear External Analgesic Skin Lotion
- Pramoxine® topical anesthetic
- Solarcaine® Aloe Extra Burn Relief Gel
- Emla® Cream
- Hemorid®
- Aveeno® Maximum Strength Anti-Itch Cream, 1% Hydrocortisone
- Bactine® Antiseptic
- Instillagel® Sterile Lubricant
- Sucrets® Sore Throat Lozenge

*For additional information about products that might contain caine mix or a related substance, go to the Household Product Database online (<http://householdproducts.nlm.nih.gov>) at the United States National Library of Medicine. These lists are brief and provide just a few examples. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have questions. These are general guidelines. Talk to your doctor for more specific instructions.



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For further information about contact allergies and patch testing, visit www.truetest.com.

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6 Fragrance Mix – Patient Information

Your T.R.U.E. TEST results indicate that you have a contact allergy to fragrance mix. Fragrance mix chemicals in contact with your skin may result in dermatitis. This contact allergy may cause your skin to react when it is exposed to these substances, although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters.

Fragrance mix contains the following eight substances:

- Geraniol
- Hydroxycitronellal
- a-Amylcinnamaldehyde
- Eugenol
- Cinnamaldehyde
- Cinnamyl alcohol
- Isoeugenol
- Oak moss

Fragrances can be found in most products. They are used to add flavor or scent to a product or may mask a product's unpleasant smell. They may come from natural (animals or plants) or synthetic sources.

Contact allergy to fragrances is frequent

Where is fragrance mix or one of its components found?



At work, you may find fragrance mix or one of its components in the manufacture or use of:

- Herbal and botanical products
- Dental medicaments and cements
- Metal working fluids
- Essential oils and aromatherapy
- Pesticides and insect repellents
- Polishes and waxes
- Some foods, beverages and oils that contain citrus, clove and cinnamon
- Cleaning and degreasing products
- Perfumes and colognes
- Scented candles and incense
- Paper products
- Scented tobaccos
- Air fresheners and deodorizers



At home, you may find fragrance mix or one of its components in:

- Perfumes and colognes
- Scented candles
- Facial tissue and toilet paper
- Pet care and grooming products
- Household cleaners, waxes, and polishes
- Car care products, cleaners, waxes and polishes
- Soaps, cleansers, deodorants, toothpastes and hygiene products
- Cosmetics such as foundations and powders, blush, mascaras, eye shadows, eyeliners and pencils
- Some foods, beverages and oils that contain citrus, clove and cinnamon
- Air fresheners and deodorizers
- Pesticides and insect repellents
- Aromatherapy products, incense
- Lipsticks and lip balms
- Nail care products such as polish and remover
- Detergents, fabric softeners and stain removers
- Shampoo, conditioner, hair coloring and hair care products
- Skin ointments, creams, lotions, moisturizers, medications, and tanning products
- Shaving products

6 Fragrance Mix

Fragrances are used to flavor foods and tooth pastes. They are also found in dental materials, topical medicaments, medical pastes and gels such as EKG gels. Sometimes perfumes are added to the air in ventilation systems in buildings and airplanes. Some industrial products, such as metalworking fluids, may also contain fragrances. Fragrances occur naturally in some foods and spices.

How can you avoid fragrance mix or one of its components?

- Fragrances are found in most personal care and household products and many industrial products. Only use “fragrance-free” products. Avoid products labeled “unscented” because they may still contain a masking fragrance.
- Look for products that do not list “fragrance” or one of the fragrance mix components on the label, ingredients list or Material Safety Data Sheet (MSDS). If there is no information, contact the product manufacturer before using.

Avoid balms such as Tiger Balm, propolis and tea-tree oil.

- Tell your physician, pharmacist, dentist, veterinarian, beautician and hairdresser that you are allergic to fragrance mix. Ask for preparations that do not contain fragrances.
- If you must use products that contain fragrances on pets or children, wear protective gloves. Utility or disposable gloves made of natural or synthetic rubber, or vinyl, are good for working with most products that contain fragrance mix or one of its components.

If you are severely allergic, a diet free of cinnamon, cloves, vanilla and citrus should be considered. Avoid peel from citrus fruits.

- If you think that you contact fragrance mix or one of its components at work, ask your employer for MSDS or manufacturer information on the product(s). Talk to your employer about using a different product or wearing protective gloves and clothing.

What should you look for and avoid?*

Avoid products that list any of the following names in the ingredients, MSDS or package insert.

- **Geraniol** or geraniol alcohol or geranyl alcohol
- **Cinnamaldehyde** or cinnamic aldehyde, cinnamal, cassia aldehyde, 3-phenylacrolein
- **Hydroxycitronellal** or citronellal hydrate, lilyl aldehyde, muguet synthetic, oxydihydrocitronellal
- **Cinnamyl alcohol** or cinnamic alcohol, 3-phenylallyl alcohol
- **Eugenol** or allylguaiacol, 2-methoxy-4-allylphenol, 4-hydroxy-3-methoxyallylbenzene
- **Isoeugenol** or 4-propenylguaiacol, 2-methoxy-4-(1-propenyl)phenol, 4-hydroxy-3-methoxypropenylbenzene
- **α -Amylcinnamaldehyde** or amyl cinnamal, jasmine aldehyde, α -amyl-, -phenylacrolein, 2-benzylideneheptanal
- **Oak moss** or oakmoss, oakmoss oil or extract, oakmoss absolute resin, oakmoss concrete

Other names for fragrances:

- Aroma chemicals
- Colognes
- Essential oils of plants and animals
- Masking or unscented perfumes
- Perfumes
- Toilet water

6 Fragrance Mix

You may also react to fragrance mix -related substances such as:

- **Balsam of Peru** and its components (cinnamic acid, methyl cinnamate, cinnamoin, vanillin, and cinnamyl cinnamate)
- Citral, lylal, colophony, farnesol, propolis balsam
- Cassia oil
- Citronella candles
- Cinnamon
- Cloves
- Narcissus oil
- Sandalwood oil

What are some products that may contain fragrance mix or one of its components?*

- Lubriderm® Daily Moisture Lotion
- Johnson's® Original Baby Shampoo
- Cover Girl® Clean Makeup
- Tide® Mountain Spring Powder Detergent
- LPS® Aquacut Cutting Fluids
- Clairol Herbal Essence Shampoos
- Nutragena® Transparent Original Facial Bar
- Tom's of Maine® Deodorants
- Maybelline® LongWearing Makeup
- Bounce® Fabric Softener and Dryer Sheets
- CitraKlean Concentrated Cleaner & Degreaser
- Clorox Bathroom Wipes

What products do NOT contain fragrance mix or one of its components?*

- U-Lactin® Lotion
- Almay® Fragrance-free Deodorant
- Tide® Free Powder Detergent
- Bounce® Free Dryer Sheets
- Gillette® Satin Care® Shaving Gel, Fragrance Free
- Oust® Air Sanitizer, Fragrance Free
- Lubrex® Cleanser and Lubrex® Cream
- Almay® skin care and makeup products
- Purex® Free/Clear detergents
- DHS™ Clear Shampoo, Fragrance Free
- Neutrogena® Fragrance Free Facial Bar
- Aveda® Shampoo and Conditioner, Rosemary Mint

*For additional information about products that might contain fragrance mix or a related substance, go to the Household Product Database online (<http://householdproducts.nlm.nih.gov>) at the United States National Library of Medicine. These lists are brief and provide just a few examples. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have questions. These are general guidelines. Talk to your doctor for more specific instructions.



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7 Colophony – Patient Information

Your T.R.U.E. TEST results indicate that you have a contact allergy to colophony. Colophony in contact with your skin may result in dermatitis. This contact allergy may cause your skin to react when it is exposed to this substance, although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters.

Colophony comes from the sap of coniferous trees such as pines, junipers, firs and cedars. Colophony (or rosin) is found in personal care and beauty products, topical medications, surface coatings, lubricants, adhesives and sealants, as well as the rosin for string instruments and dancers' shoes.

Where Is Colophony Found?



At work, you may find colophony in:

- Wood and sawdust
- Wood fillers
- Coated papers
- Printing inks
- Cutting fluids
- Lacquers and varnishes
- Paints and stains
- Polishes and waxes
- Asphalt products
- Corrosion inhibitors
- Greases and oils
- Solvents
- Polyethylene
- Neoprene rubber
- Waterproofings
- Soldering materials
- Linoleum
- Drive belts



At home, you may find colophony in:

- Instrument rosin
- Diapers, feminine napkins
- Waxed threads
- Wax depilatories
- Furniture polishes and waxes
- Pine-oil cleaners
- Yellow laundry bar soap
- Glues, adhesives, tapes, stamps
- Match tips
- Fireworks
- Cosmetics, foundations, concealers, sunscreens, eyeliners, mascaras, lipsticks
- Creams
- Color pencils

Other possible sources include dental-impression materials, ostomy appliances, wound dressings and salicylic acid plasters. Some veterinary medications may contain colophony, such as topical salves, hoof ointments and softeners, and first-aid ointments.

Sometimes allergy to colophony may be a marker for allergy to perfumes, flavors and spices.

Colophony is present in wood, sawdust and gum from coniferous trees

7 Colophony

How can you avoid colophony?*

- Only use products that do not list colophony or related chemicals on the label, ingredients list or Material Safety Data Sheet (MSDS). If there is no information, contact the product manufacturer to see if it contains colophony.
- Avoid contact with sawdust and sap from pine trees and other coniferous trees.
- Tell your physician, pharmacist, dentist, veterinarian, beautician and hairdresser that you are allergic to colophony. Ask for preparations that do not contain colophony or related substances.
- Wear protective gloves. Heavy-duty gloves made of vinyl or synthetic rubber are good for temporary work with veterinary medications, pine-oil cleaners, varnishes or paints. Use cotton gloves to protect your hands from paper products that contain or are coated with colophony.
- If you think that you contact colophony at work, ask your employer for MSDS or manufacturer information on the product(s). Talk to your employer about using a product without colophony or wearing protective gloves and clothing.

What should you look for and avoid?*

Avoid products that list any of the following names in the ingredients, MSDS or package insert.

- | | | |
|---|---------------------------------|--------------------------|
| • Colophony | • Colophonium | • Abietic acid |
| • Abietic alcohol, abietyl alcohol or methyl abietate alcohol | • Rosin, gum rosin or rosin gum | • Resina terebinthinae |
| • Disproportionated rosin | • Wood or pine rosin | • Rosin solder flux fume |
| | • Tall oil | |

Colophony-related substances that you may also react to:

- | | | |
|--|--|---|
| • Wood tars | • Rosin esters | • Other evergreen trees in addition to pine trees |
| • Fragrances, essential oils and some spices | • Spices (nutmeg, paprika, mace, cloves) | |

What are some products that may contain colophony?*

- | | | |
|-----------------------------------|--|--|
| • Kester® 60/40 Resin Core Solder | • Elmers® Probond Woodfiller | • Rawleigh Antiseptic Salve |
| • Permatex® Pipe Joint Compound | • Indian Head® Gasket Shellac Compound | • Hill Brand Rosin for Violin, Viola & Cello |

What are some similar products that do NOT contain colophony?*

- | | | |
|--|---|---|
| • Kester® 50/50 Acid Core Solder | • The Right Stuff® Gasket Maker | • Vermont's Original Bag Balm |
| • Loctite® H.V.A.C. Blue Pipe Joint Compound | • DAP® Plastic Wood Solvent Wood Filler | • Clarity® Rosin for Violin, Viola, Cello or Bass |

*For additional information about products that might contain colophony or a related substance, go to the Household Product Database online (<http://householdproducts.nlm.nih.gov>) at the United States National Library of Medicine. These are general guidelines. Talk to your doctor for more specific instructions. These lists of products are brief and provide just a few examples. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have questions.

8 Paraben Mix – Patient Information

Your T.R.U.E. TEST results indicate that you have a contact allergy to paraben mix. Paraben mix in contact with your skin may result in dermatitis. This contact allergy may cause your skin to react when it is exposed to these substances, although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters.

Paraben mix which contains the following five substances:

- Methyl *p*-hydroxybenzoate
- Propyl *p*-hydroxybenzoate
- Benzyl *p*-hydroxybenzoate
- Ethyl *p*-hydroxybenzoate
- Butyl *p*-hydroxybenzoate

Parabens are used as preservatives in many over-the-counter medications, cosmetics, personal care and hygiene products.

Where is paraben mix or one of its components found?



At work, you may find paraben mix or one of its components in the manufacture or use of:

- Metalworking oils and fluids
- Cosmetics, personal care and hygiene products
- Agriculture, food production and processing
- Hair care products
- Veterinary medications and pet care products
- Antiseptic topical medications



At home, you may find paraben mix or one of its components in:

- Lipsticks and lip balms
- Pet care and grooming products
- Soaps, cleansers, and hygiene products
- Topical medications for skin pain or infections; hemorrhoid treatments
- Skin ointments, creams, lotions, sunscreens and moisturizers
- Shaving products
- Preservatives used in some foods
- Shampoo, conditioner, hair coloring and hair care products
- Cosmetics such as foundations and powders, blush, mascaras, eye shadows, eyeliners and pencils, lipsticks, quick-dry nail products, bronzers, makeup removers

Parabens are found in many dermatological creams, ear and nose drops, rectal and vaginal medications, bandages and local anesthetics.

Shampoos and soaps are at low risk

8 Paraben Mix

How can you avoid paraben mix and its components?

- Use products that do not list paraben mix or related chemicals on the label, ingredients list, product insert or Material Safety Data Sheet (MSDS). If there is no information, talk to your pharmacist or contact the product manufacturer.
- Some patients allergic to paraben mix can wear cosmetics that contain parabens without reacting, but you should stop using a product if skin symptoms develop. Eating foods containing paraben preservatives is usually not a problem.
- Tell your physician, pharmacist, dentist, veterinarian, beautician and hairdresser that you are allergic to paraben mix or one of its components. Ask for preparations that do not contain paraben mix or related substances.
- If you must use products that contain parabens on pets or children, wear protective gloves. Utility or disposable gloves made of natural or synthetic rubber, or vinyl, are good for working with products that contain paraben mix or one of its components.
- If you think that you contact paraben mix or one of its components at work, ask your employer for MSDS or manufacturer information on the product(s). Talk to your employer about using a different product or wearing protective gloves and clothing.

What should you look for and avoid?*

Avoid products that list any of the following names in the ingredients, MSDS or package insert.

- **Methyl *p*-hydroxybenzoate** or methylparaben; 4-hydroxybenzoic acid methyl ester; methyl parahydroxybenzoate; p-methoxycarbonylphenol
- **Ethyl *p*-hydroxybenzoate** or ethylparaben; 4-hydroxybenzoic acid ethyl ester; ethyl p-oxybenzoate; p-carbethoxyphenol
- **Propyl *p*-hydroxybenzoate** or propylparaben; 4-hydroxybenzoic acid propyl ester
- **Butyl *p*-hydroxybenzoate** or butylparaben; 4-hydroxybenzoic acid butyl ester
- **Benzyl *p*-hydroxybenzoate** or benzylparaben; phenylmethyl 4-hydroxybenzoate; *p*-hydroxybenzoic acid benzyl ester

8 Paraben Mix

What are some products that may contain paraben mix or one of its components?*

- Neutrogena® Sunblock Lotion, Sensitive Skin
- Clairol® Loving Care Haircolor
- Cover Girl® Browshaper and Eyeliner, Triple Mascara, Cheekers Blush, and Simply Powder Foundation
- L'Oreal® Preference Haircolor
- Johnsons® Baby Lotion and Softwash™ BodyWash
- Vaseline Intensive Care® Lotion
- Noxzema® Plus Cleansing Lotion
- PHisoderm® Deep Cleaning Cleanser
- Clearasil® Adult Care Acne Cream
- Nivea® for Men After Shave Sensitive Balm
- Ponds® Dry Skin Cream
- Revlon® ColorStay Overtime™ Lipcolor and Lash Tint; Powder Blush; Skinheights Face Powder
- Old Spice® Shave Cream
- Lanacane® Maximum Strength Anti Itch Medication
- Revlon® Professional Cuticle Remover
- Lubrex® Cream
- Four Paws® Magic Coat Pet Shampoo
- Desitin® Diaper Rash Ointment

What products do NOT contain paraben mix or one of its components?*

- Lady Grecian® Formula
- Thermasilk® Moisturizing Shampoo
- Lubrex® Cleanser
- Burt's Bees® Orange Essence Facial Cleanser
- Benadryl® Extra Strength Itch Relief Spray
- Aveeno® Anti-Itch Concentrated Lotion
- Almay® Clear Complexion Pressed Powder
- Burt's Bees® Natural Cosmetics Concealer, Eyeshadow, Blushing Crème, Lipstick, Eyeliner and Brow Pencil
- Just for Men® Shampoo – In Haircolor
- Suave® Performance Series Shampoo
- Eucerin® Original Moisturizing Lotion
- Johnson's® Baby Shampoo, Original
- Septiderm-V Grooming Shampoo for Pets
- Edge® Advanced Shaving Gel
- Avon PerfectWear All Day Lipstick
- FREEdHEM® 100% Natural - One-Application Hemorrhoidal Cream

*For additional information about products that might contain paraben mix or a related substance, go to the Household Product Database online (<http://householdproducts.nlm.nih.gov>) at the United States National Library of Medicine. These lists are brief and provide just a few examples. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have questions. These are general guidelines. Talk to your doctor for more specific instructions.

9 Negative Control

The negative control is an uncoated patch that does not contain any allergen or vehicle. The patch is made of polyester like the rest of the T.R.U.E. TEST® panel. The tape contains rayon fibers and the adhesive is acrylate-based. Usually, the negative control is used to help doctors interpret doubtful reactions to the other patches that contain allergens.

It is very unlikely that patients would react to the negative control. If a reaction is observed at this patch site, it may mean that a patient is allergic to the polyester patch material used in T.R.U.E. TEST. It may also mean that a patient has extremely sensitive skin, making it difficult to interpret patch test or skin test reactions in general.

10 Balsam of Peru – Patient Information

Your T.R.U.E. TEST results indicate that you have a contact allergy to balsam of Peru. Balsam of Peru in contact with your skin may result in dermatitis. This contact allergy may cause your skin to react when it is exposed to this substance, although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters.

Balsam of Peru is a fragrant resinous liquid harvested from trees grown in Central America. Not commonly used today, balsam of Peru may still be found as a fragrance, flavor or antibacterial ingredient. Balsam of Peru contains a mixture of many substances that are generally related to cinnamon, vanilla, and clove fragrances and flavorings.

A positive patch test to balsam of Peru often indicates fragrance allergy.

Where is balsam of Peru found?



At work, you may find balsam of Peru or one of its components used to add flavor or fragrance in the manufacture of:

- Herbal and botanical products
- Perfumes and colognes
- Cleaning products
- Scented tobaccos
- Dental medicaments and cements
- Some foods and spices
- Pesticides
- Essential oils and aromatherapy products
- Scented candles
- Air fresheners and deodorizers



At home, you may find balsam of Peru or one of its components in:

- Perfumes and colognes
- Baby powders
- Cosmetics
- Sunscreens, suntan lotions
- Insect repellents
- Hair conditioners and shampoos
- Medicinal creams and ointments
- Medicated lozenges
- Oral and lip medications
- Pesticides
- Tomatoes, citrus
- Air fresheners and deodorizers
- Chocolate
- Colas, sodas and flavored beverages
- Chewing gum
- Wines, liquors and aperitifs
- Flavored tobaccos
- Cinnamon, vanilla and other spices
- Scented candles
- Essential oils and aromatherapy products

Balsam of Peru may be found in veterinary preparations.

10 Balsam of Peru

How can you avoid balsam of Peru?

- Only use products that do not list balsam of Peru or related chemicals on the label, ingredients list or Material Safety Data Sheet (MSDS).
- Choose fragrance-free personal care products and cosmetics. Avoid “unscented” products since these may contain a masking fragrance related to balsam of Peru.

Be especially careful with diaper products and hemorrhoid treatments

- Tell your physician, pharmacist, dentist, veterinarian, beautician and hairdresser that you are allergic to balsam of Peru. Ask for preparations that do not contain balsam of Peru or related substances.
- If your symptoms are severe, your doctor may recommend a special diet. This diet tries to reduce the foods that may contain balsam of Peru in flavors and spices.
- Wear protective gloves. Gloves made of natural or synthetic rubber, or vinyl, are good for working with products that contain balsam of Peru – provided they have no added flavors.
- If you think that you contact balsam of Peru at work, ask your employer for MSDS or manufacturer information on the product(s). Talk to your employer about using a different product or wearing protective gloves and clothing.

What should you look for and avoid?*

Avoid products that list any of the following names in the ingredients, MSDS or package insert.

- **Balsam of Peru** or myroxylon pereirae oleoresin; Peruvian balsam; balsam Peru oil or extract; balsam fir oleoresin or oil; hyperabsolute balsam, Peru; cinnamein, balsam of Tolu, China oil, Black balsam, Surinam balsam, Indian balsam, Honduras balsam

Balsam of Peru may contain:

- | | |
|---|---------------------------------------|
| • Cinnamic or cinnamylic acid; 3-phenyl-2-propenoic acid; 3-phenylacrylic acid | • Benzyl benzoate and other benzoates |
| • Cinnamal or cinnamic aldehyde; cassia aldehyde; 3-phenyl-2-propenal | • Benzyl acetate |
| • Cinnamic or cinnamyl alcohol; 3-phenyl-2-propenol; 3-phenylallyl alcohol | • Benzoic acid |
| • Methyl cinnamate or methyl cinnamylate; cinnamic acid methyl ester; methyl 3-phenylpropenoate | • Benzaldehyde |
| • Benzyl cinnamate or cinnamein; cinnamic acid benzyl ester; phenylmethyl 3-phenyl-2-propenoate | • Benzyl salicylate |
| • Vanillin or vanillic aldehyde; vanillaldehyde; 2-methoxy-4-formylphenol | • Cinnamic aldehyde |
| • Eugenol or allylguaiacol; 2-methoxy-4-(2-propenyl)phenol; 2-methoxy-4-allylphenol | • Citrus peel |
| • Cinnamyl cinnamate or styracin; 3-phenylallyl cinnamate | • Coniferyl alcohols |
| • Benzoic alcohol | • Coumarin |
| | • Farnesol |
| | • Isoeugenol |
| | • Nerolidol |
| | • Resinous substances |
| | • Tea Tree Oil |

10 Balsam of Peru

You may also react to balsam of Peru -related substances such as:

- Fragrance mix components
- Gum benzoin
- Propolis balsam
- Colophony
- Spices (e.g. Jamaican pepper, cinnamon, cloves, nutmeg, paprika, curry, vanilla)
- Tincture of krameria
- Balsam of Copaiba
- Storax (Styrax)
- Essence of orange peel
- Balsam of Tolu
- Turpentine
- Wood tars
- Beeswax
- Coumarin
- Diethylstilbestrol

What are some products that may contain balsam of Peru or one of its components?*

- Tiger Balm® Extra Strength Pain Relieving Ointment
- Spectracide® Bag-A-Bug® Japanese Beetle Trap
- Hoffman Dog & Cat Repellent
- Bug-A-Tak Insect Spray
- Ecco Bella® Vanilla Shampoo/Conditioner
- Nature'sWay® Zinc Lozenges with Echinacea and vitamin C
- Ortho® Bug-B-Gon® Full-Season Japanese Beetle Trap
- Benzoin® compound tincture
- Djarum® cigarettes
- The Body Shop® Vanilla Body Lotion

What products do NOT contain balsam of Peru or one of its components?*

- Nature's Resource® Zinc & Echinacea Lozenges
- Repel® Dog & Cat Repellent Spray
- Magick Fragrance Free Oil Free Shampoo
- Lubrex® Hand Cream
- Carbaryl (Sevin) or trichlorfon (Dylox, Proxol) for Japanese beetle control
- DHS™ Clear Shampoo, Fragrance Free
- Icy Hot® Extra Strength Pain Relieving Balm
- Lubriderm® Daily Moisture Lotion, Fragrance Free

*For additional information about products that might contain balsam of peru or a related substance, go to the Household Product Database online (<http://householdproducts.nlm.nih.gov>) at the United States National Library of Medicine. These lists are brief and provide just a few examples. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have questions. These are general guidelines. Talk to your doctor for more specific instructions.



3400 East McDowell ■ Phoenix, Arizona 85008-7899

For further information about contact allergies and patch testing, visit www.truetest.com.

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11 Ethylenediamine Dihydrochloride – Patient Information

Your T.R.U.E. TEST results indicate that you have a contact allergy to ethylenediamine. Ethylenediamine (EDD) in contact with your skin may result in dermatitis. This contact allergy may cause your skin to react when it is exposed to this substance, although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters.

Ethylenediamine is a substance that is used to manufacture various drugs and industrial compounds. EDD is a colorless liquid that is used as a preservative, emulsifier and stabilizer in certain medical creams, cosmetics and a variety of other products.

Where is ethylenediamine found?



At work, you may find ethylenediamine used in the manufacture of:

- Bleach activators
- Drugs and polyamines
- Lubricants and waxes
- Metal-binding agents, known as chelators
- Curing agents in epoxy resins and coatings
- Surfactants, emulsifiers and dispersants
- Binders for printing inks
- Urethane foam catalysts
- Textile dye-assist compounds
- Carbamates for fungicides and rubber additives
- Fuel additives and corrosion inhibitors



At home, you probably won't find ethylenediamine - even though it has been used as a starting material to produce many drugs, laundry additives, fungicides, and cured epoxy products.

Some antihistamines used in the treatment of asthma, hay fever, motion sickness and hives may cross react with EDD. You may have a general skin reaction to these antihistamine drugs as well as to aminophylline drugs used for asthma which may contain EDD as an impurity.

Rarely, a few individuals with ethylenediamine allergies may develop skin reactions to some piperazine-related drugs, including some antihistamines. Talk to your doctor if you have any reactions to these medications.

You may be exposed to EDD through industrial products such as solvents, textile resins, inhibitors, antifreezers, epoxy hardeners and coolant oils.

Water-based industrial products may contain EDD as a fungicide. EDD is also a component of some dyes, insecticides and synthetic waxes.

11 Ethylenediamine Dihydrochloride

How can you avoid ethylenediamine?

- Avoid direct skin contact with chelators and the substances used to manufacture carbamates, epoxy resin curing agents, fuel additives, and the other industrial products listed above.
- Do not use products that list ethylenediamine or related chemicals on the label, ingredients list or Material Safety Data Sheet (MSDS). If there is no information and you have questions, contact the product manufacturer.
- Tell your physician, pharmacist, dentist and veterinarian that you are allergic to ethylenediamine. Ask for preparations that do not contain ethylenediamine or related substances.
- Wear protective gloves. Heavy-duty gloves made of natural or synthetic rubber, or vinyl, may be good for working with many potential sources of ethylenediamine.
- If you think that you contact ethylenediamine at work, ask your employer for MSDS or manufacturer information on the product(s). Talk to your employer about using a different product or wearing protective gloves and clothing.

What should you look for and avoid?*

Avoid products that list any of the following names in the ingredients, MSDS or package insert:

- **Ethylenediamine dihydrochloride** or 1,2-ethanediamine, dihydrochloride; chlorethamine; dimethylenediamine dihydrochloride; ethylenediammonium chloride; 1,2-diaminoethane dihydrochloride

Ethylenediamine dihydrochloride -related substances that you may also react to:

- | | |
|-------------------------------|---------------------------------|
| • Diethylenetriamine (DETA) | • Tetraethylenepentamine (TEPA) |
| • Triethylenetetramine (TETA) | • Aminophylline |
| • Dipropylenetriamine (DPTA) | • Piperazine |

Related substances to which you may react:

- | | | |
|-----------------------------|---|------------------------------------|
| • Aminophylline | • Epoxy resin catalysts (ethylenediamine and chemically related amines such as diethylenediamine, dipropylenetriamine, triethylenetetramine, tetraethylenetetramine, trimethylhexamethylenediamine) | • Meclizine |
| • Buclizine | | • Piperazine-based antihistamins |
| • Chlorcyclizine | | • Promethazine hydrochloride (HCl) |
| • Cyclizine | | • Tripelemnamine |
| • Hydroxyzine hydrochloride | | |

*For additional information about ethylenediamine visit the United States National Library of Medicine online at www.nlm.nih.gov. The lists above are brief. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have questions. These are general guidelines. Talk to your doctor for more specific instructions.



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For further information about contact allergies and patch testing, visit www.truetest.com.

12 Cobalt Dichloride – Patient Information

Your T.R.U.E. TEST results indicate that you have a contact allergy to cobalt. Cobalt in contact with your skin may result in dermatitis. This contact allergy may cause your skin to react when it is exposed to this substance, although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters.

Cobalt is a silvery metal with many properties similar to those of iron and nickel. Cobalt is used with other metals to make metal alloys.

Where is cobalt found?



At work, you may find cobalt in:

- Bricks and cement
- Metal carbide manufacturing, etching, grinding, welding and metal working materials
- Cobalt-based pigments, additives and drying agents in paints
- Catalyst/promoter in resins and plastics
- Printing inks
- Cobalt-based pigments and glazes during pottery manufacture and finishing
- Orthopedic and dental implants, dental prosthesis

Major industrial use of cobalt is in alloys or as a binder of tungsten in hard metals, Cobalt is present in magnets, welding rods (also in the smoke) and welding stainless steel. Industrial exposure to cobalt can also arise from glass, lubricating oils and animal feeds. It is used in the rubber tire industry, as an oxidising agent in automobile exhaust control and as a catalyst or accelerator for the production of terephthalate, polyester and acrylate plastics.



At home, you may find cobalt in:

- Cobalt-based pigments, additives and drying agents in ceramic paints and glazes
- Some spray paints and enamels, wood stains, paints and finishes
- Bricks and cement
- Etching and grinding metal carbides
- Metal tools, utensils and objects such as keys, magnets, clothing fasteners, and jewelry
- Orthopedic and dental implants, dental prosthesis
- Vitamin B12 supplements

Further cobalt is used as pigments in light brown hair dyes and makeup, is sometimes used in blue tattoos, and may be found in solid soaps.

12 Cobalt Dichloride

How can you avoid cobalt?

- Only use products that do not list cobalt or related chemicals on the label, ingredients list or Material Safety Data Sheet (MSDS). If there is no information, contact the product manufacturer.
- Because cobalt and nickel can be found in many of the same metal products, allergies to both metals can develop. To prevent this, consider wearing jewelry made of sterling silver or other precious metals, rather than costume jewelry. Coat or cover the handles of frequently handled metal objects likely to contain cobalt.
- Metallic items that are difficult to avoid such as keys may be coated with several layers of clear nail polish or polyurethane lacquer. Larger objects can be covered with plastic, for example for hairdressers and textile workers who use metal tools throughout the day. If possible select scissors and tools with handles of plastic, wood or high quality stainless steel.
- Reactions to metal instruments used by dentists and physicians are unlikely because skin contact is too brief. Reactions to metal dental appliances and orthopedic implants are rare.
- Avoid work exposure from metallic dust and cobalt etching, metal salts of electroplating, wet cement and wet alkaline clay containing cobalt, paints, laquers, varnishes, printing inks, and animal feed enriched with cobalt salts. If possible avoid wet work since moisture increases the penetration of cobalt into the skin.
- Tell your physician, pharmacist, dentist, veterinarian, beautician and hairdresser that you are allergic to cobalt. Ask for products that do not contain cobalt or related substances.
- If you must contact products that contain cobalt, wear protective gloves. Heavy-duty gloves made of natural or synthetic rubber, or vinyl, can provide sufficient protection when working with liquids or wet cement and clay. Fabric or leather gloves can protect your hands from cobalt while working with dry metal, ceramics or cement products.
- If you think that you contact cobalt at work, ask your employer for MSDS or manufacturer information on the product(s). Talk to your employer about using a different product or wearing protective gloves and clothing.

What should you look for and avoid?*

Avoid products that list any of the following names in the ingredients, MSDS or package insert.

- **Cobalt** or cobalt dust and fume; cobalt metal and metal powder

Cobalt-related substances that you may also react to:

- Nickel
- Chromate

Synonyms for cobalt:

- Cobalt blue
- Cobaltous chloride
- Cobalt dichloride
- Hexahydrate
- Cobalt chloride
- Cobaltous chloride hexahydrate
- Cobalt (II) chloride hexahydrate

What are some products that may contain cobalt?*

- Metal costume jewelry, piercings, and hair ornaments
- Cobalt-based pigments in paints, enamels, inks and glazes
- Metal fasteners including buttons, zippers, snaps, hooks, rivets, buckles, pins
- Metal tools, equipment, utensils and keys

12 Cobalt Dichloride

What products may NOT contain cobalt?*

- Stainless steel, plastic, gold (18k) or silver jewelry or decorative items
- Stainless steel tools and utensils, or any with plastic coated handles
- Titanium or stainless steel orthodontic materials and ceramic brackets
- Organic non-metallic pigments for paints, enamels, inks and glazes

*For additional information about products that might contain cobalt or a related substance, go to the Household Product Database online (<http://householdproducts.nlm.nih.gov>) at the United States National Library of Medicine. These lists are brief and provide just a few examples. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have questions. These are general guidelines. Talk to your doctor for more specific instructions

13 *p*-tert-Butylphenol Formaldehyde Resin – Patient Information

Your T.R.U.E. TEST results indicate that you have a contact allergy to *p*-tert-butylphenol formaldehyde resin. *p*-tert-butylphenol formaldehyde in contact with your skin may result in dermatitis. This contact allergy may cause your skin to react when it is exposed to this substance, although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters.

This substance is most commonly found in glues, surface coating and adhesives used in shoes, upholstery, leather and hobbies.

Where is *p*-tert-butylphenol formaldehyde resin found?



At work, you may find *p*-tert-butylphenol formaldehyde resin found:

- Manufacture and use of polychloroprene adhesives
- Manufacture and repair of shoes, especially shoes and components made of rubber
- Adhesive on electrocardiograph monitoring electrodes
- Production of fiberglass and mineral fiber insulation
- Manufacture of construction materials such as laminated wood and plywood products
- Surface coatings, varnishes and inks

It is also used in the automotive industry as a sealant and break lining for cars.



At home, you may find *p*-tert-butylphenol formaldehyde resin found:

- Glued rubber and leather goods such as shoes, handbags, watchbands, hats and belts. When shoes get wet, the allergen in these glues is dissolved and comes in contact with the skin
- Glues for fabric and upholstered furniture

It may be included in cosmetics e.g deodorants, lip liner and plastic mail adhesive.

13 *p*-tert-Butylphenol Formaldehyde Resin

How can you avoid *p*-tert-butylphenol formaldehyde resin?

- Only use products that do not list *p*-tert-butylphenol formaldehyde resin or related chemicals on the label, ingredients list or Material Safety Data Sheet (MSDS). If there is no information, contact the product manufacturer.
- Avoid the use of waterproof glues in leather and rubber shoes. If you must wear leather or rubber shoes, change socks frequently to prevent exposure through sweat. You may have to replace your shoes that have been soaked by water if your feet develop a rash. Do not have components of shoes reglued by a cobbler.
- Avoid direct skin contact with glued wood or laminated wood products, as well as fiberglass and mineral fiber materials.
- It may also be necessary to avoid duplicating paper and glued fabric materials.
- If you must work with materials that may contain *p*-tert-butylphenol formaldehyde resin, wear protective gloves. Heavy-duty chemically resistant gloves may be adequate or good for working with adhesives that contain this resin. When working with finished wood and dry products, use fabric or leather gloves to protect your hands from contacting the resin.
- Tell your physician and pharmacist that you are allergic to *p*-tert-butylphenol formaldehyde resin. Ask for products that do not contain *p*-tert-butylphenol formaldehyde resin or related substances.
- If you think that you contact *p*-tert-butylphenol formaldehyde resin at work, ask your employer for MSDS or manufacturer information on the product(s). Talk to your employer about using a different product or wearing protective gloves and clothing.

What should you look for and avoid?*

Avoid products that list any of the following names in the ingredients, MSDS or package insert.

- ***p*-tert-Butylphenol formaldehyde** (PTBP) or paraformaldehyde; formaldehyde, *p*-tert-butylphenol polymer; *p*-tert-butylphenol formaldehyde resin (PTBP FR); formaldehyde, *p*-tert-butylphenol polymer; 4-(1,1-cimethylethyl)phenol, formaldehyde polymer

Related substances to which you may react: Neoprene adhesives

What are some products that may contain *p*-tert-butylphenol formaldehyde resin?*

- HRJ-1367 and HRJ-10416 Thermosetting Resins for contact cements and metal coatings
- Leather and rubber adhesives in the shoe and upholstery industries

What products may NOT contain *p*-tert-butylphenol formaldehyde resin?*

- Adhesive in 3M™2248 Red Dot™ Paediatric electrode
- Shoes and products made of vinyl (PVC), plastic, silicone, polyurethane, polyethylene or acrylates
- Scanpor® surgical paper tape

*For additional information about products that might contain *p*-tert-butylphenol formaldehyde resin or a related substance, go to the Household Product Database online (<http://householdproducts.nlm.nih.gov>) at the United States National Library of Medicine. These lists are brief and provide just a few examples. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have questions. These are general guidelines. Talk to your doctor for more specific instructions.

14 Epoxy Resin – Patient Information

Your T.R.U.E. TEST indicates that you have a contact allergy to epoxy resin. Epoxy resin in contact with your skin may result in dermatitis. This contact allergy may cause your skin to react when it is exposed to this substance, although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters.

Epoxy resins are found in two-component adhesives, coatings, paints and composite materials with a curing agent. These epoxy resins are commonly found in industry and at home.

Where is epoxy resin found?



At work, you may find epoxy resin in and around:

- Production of molds, dies and models
- Two-component paints and adhesives
- Electron microscopy embedding media
- Art and sculpture materials
- Manufacture of epoxy composite products such as tennis racquets, skis, and circuit boards
- Lightweight equipment and rotor production
- Flooring, floor sealers and coatings
- Protective finishes, coverings and coatings
- Dental restoratives and epoxies

The most common epoxy exposure is from 2-component adhesive. Epoxy resin is also found in adhesive tapes, surface coatings, paints, putties and inks. It may be found in encapsulation of electrical parts and in some dental bonding agents.

Epoxy can be added to other plastic materials e.g. some vinyl plastic products such as eyeglass frames, vinyl gloves, handbags and plastic necklaces.

Industrially epoxy resin is found in product finishing and repair such as floor, wall, road and bridge coatings, appliance finished, automotive primers and flame-retardant. Reactions may occur through exposure to varnishes, laminates, paints, tool handlers, die-castings, model making as well as through materials used by artists and sculptors.

Note: Only resin and hardener, the two components of uncured epoxy are allergenic. Cures (hardened) plastic is seldom a problem.



At home, you may find epoxy resin in and around:

- Two-component paints, glues and adhesives
- Model and mold construction
- Flooring, floor sealers and coatings
- Protective finishes, coverings and surface coatings
- Art and sculpture materials
- Fiberglass repair

14 Epoxy Resin

How can you avoid epoxy resin?

- Do not touch or handle uncured epoxy resin and avoid breathing fumes. Only use products that do not list epoxy resin or related chemicals on the label, ingredients list or Material Safety Data Sheet (MSDS). If there is no information, contact the product manufacturer or visit their website.
- Tell your physician, pharmacist and dentist that you are allergic to epoxy resin. Ask for products that do not contain epoxy resin or related substances.
- If you must work with epoxy resin, use Silvershield®/4H® glove protective gloves that are chemically resistant. For hobby and detail work, use tools rather than bare hands when working with epoxy resin.
- If you think that you contact epoxy resin at work, ask your employer for a MSDS or manufacturer information on the product(s). Talk to your employer about using a different product or wearing chemically resistant protective gloves and clothing.

What should you look for and avoid?*

Avoid products that list any of the following names in the ingredients, MSDS or package insert.

- **Epoxy resin** or diglycidyl ether of bisphenol A; diglycidyl bisphenol A; diomethane diglycidyl ether; diglycidyl diphenylolpropane ether; 2,2-bis(4-glycidyloxyphenyl)propane; Araldite®; 4,4'-isopropylidenediphenol diglycidyl ether, DGEBA epoxy resin, Epichlorohydrin, 4,4'-Isopropylidenediphenol-epichlorohydrin

You may also react to substances related to bisphenol A based epoxy resins such as:

- Bisphenol A-glycidyl methacrylate
- Epoxy resins with diglycidyl ethers of bisphenol F
- Tosylamide epoxy resin

What are some products that may contain epoxy resin or related substances?*

- | | |
|-----------------------------------|---------------------------------------|
| • Scotch® Super Strength Adhesive | • Loctite® Metal/Concrete Epoxy |
| • Evercoat® Everfix Epoxy Resin | • Evercoat® Table Top Epoxy |
| • Concrex® Epoxies (2-component) | • ChemRex® Concrete Primer CX85 Resin |

What products do NOT contain epoxy resin or related substances?*

- | | |
|-----------------------------------|---------------------------------------|
| • Scotch-Weld™ Urethane Adhesive | • 3M™ Marine Adhesive Sealant 5200 |
| • Scotch® Quick Dry Adhesives | • Loctite® Super Glu for all plastics |
| • Fluka® Durcupan embedding agent | |

*For additional information about products that might contain epoxy resin or a related substance, go to the Household Product Database online (<http://householdproducts.nlm.nih.gov>) at the United States National Library of Medicine. These lists are brief and provide just a few examples. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have questions. These are general guidelines. Talk to your doctor for more specific instructions.

15 Carba Mix – Patient Information

Your T.R.U.E. TEST results indicate that you have a contact allergy to carba mix or one of its components. Carba mix chemicals in contact with your skin may result in dermatitis. This contact allergy may cause your skin to react when it is exposed to these substances, although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters.

Carba mix contains the following three allergens:

- Diphenylguanidine
- Zincdibutyldithiocarbamate
- Zincdiethyldithiocarbamate

These chemicals are used as fungicides and pesticides, and also in the manufacture of many rubber products. You are most likely to contact these substances when using, wearing or handling rubber products at work or at home.

Where is carba mix or one of its components found?



At work, you may find carba mix or one of its components in the manufacture or use of:

- **Industrial and safety products** made with natural rubber, butyl rubber, nitrile or neoprene - such as boots, shoes, adhesives, plugs, goggles, mats, headphones, masks, respirators, aprons, gloves, cords, tubing, insulation, and sheeting
- **Office products** made with natural rubber, nitrile or neoprene - such as rubber bands, erasers, mats, and utility gloves
- **Health care equipment** made with natural rubber, butyl rubber, nitrile or neoprene - such as medical and utility gloves, masks, bed sheeting, dental dams, anesthesia equipment, aprons, and tubing
- **Sports equipment** made with natural rubber, butyl rubber, nitrile or neoprene - such as wetsuits, shoes, boots, masks, racquet and club handles
- **Chemicals** used as fungicides or to prevent mildew or mold



At home, you may find carba mix or one of its components in:

- **Household products** made with natural rubber, butyl rubber, nitrile or neoprene - such as rubber bands, ear-and headphones, masks, condoms and diaphragms, goggles, shoes, utility gloves, swimwear, toys, hoses, tubing, and elastic
- **Sports equipment** made with natural rubber, butyl rubber, nitrile or neoprene - such as shoes, wetsuits, boots, masks, racquet and club handles
- **Fungicides and pesticides** used in the garden

Carba mix chemicals can as well be found in some soaps, shampoos, disinfectants and adhesives as well as in anti-rust products

15 Carba Mix

How can you avoid carba mix or one of its components?

- Avoid direct skin contact with rubber products in your car, at work and at home. Use rubber-free alternatives made of vinyl, plastic, leather, wood or fabric.

Some surgical gloves are labeled “hypoallergenic and rubber free” and are made of synthetic materials free of latex and all rubber accelerators. Examples are gloves made of a synthetic co-polymer of styrene and butadiene, vinyl gloves or nitrile gloves. Articles made with polyvinyl chloride, polyvinyl acetate or silicone are also suitable alternatives.

- Use fabric or plastic films to handle rubber products and avoid direct skin contact.

Avoid rubber insoles, rubber boots and rubber shoes such as sneakers and tennis shoes. Wear solid leather shoes with no inner or outer soles, like moccasins. If in doubt wear new shoes for a few days and watch for a rash. Try insoles free of carba mix chemicals to see if insoles makes dress shoes wearable for you.

Beware of socks and stockings worn with shoes containing carba mix chemicals, as carba mix chemicals can contaminate them and does not wash out.

- Only use products that do not list carbamix, one of its components, or related chemicals on the label, ingredients list or Material Safety Data Sheet (MSDS).
- Tell your physician, pharmacist, dentist, veterinarian, beautician and hairdresser that you are allergic to carba mix, which is often used in rubber products. Ask for rubber products that do not contain carba mix or related substances.
- Wear protective gloves and clothing made of leather, fabric, plastic or rubber that is free of carbamix and related substances.
- Use heavy duty non-rubber gloves (Allerderm® Heavy Duty vinyl or Silvershield®/4H® gloves) when working with chemicals that might contain carba mix or one of its components.
- If you think that you contact carba mix or one of its components at work, ask your employer for MSDS or manufacturer information on the product(s). Wear protective clothing when handling rubber hoses, seals, cables, etc. Talk to your employer about using a different product.

What should you look for and avoid?*

Avoid products that list carba mix or any of the following names in the ingredients, MSDS or package insert.

- **Diphenylguanidine** or 1,3-Diphenylguanidine; N,N'-Diphenylguanidine
- **Zinc dibutyldithiocarbamate** or bis(N,N-dibutyldithiocarbamate)zinc; carbamic acid dibutyldithio-, zinc complex; zinc bis(dibutyldithiocarbamate)
- **Zinc diethyldithiocarbamate** or diethyldithiocarbamic acid zinc salt; zinc bis(diethyldithiocarbamate); zinc diethylcarbamodithioate

You may also react to these substances because carbamates and thiurams are very similar:

- | | |
|-------------------------------------|---|
| • Tetramethylthiuram monosulfide | • Disulfiram |
| • Tetramethylthiuram disulfide | • Manganese salts of diethyl- or dibutyl-dithiocarbamates |
| • Dipentamethylenethiuram disulfide | |

If your skin is regularly exposed to rubber, you may develop reactions to other substances commonly used in the manufacture of rubber, such as mercaptobenzothiazoles, mercapto mix and thioureas.

15 Carba Mix

What are some products that may contain carba mix or related substances?*

- Zineb Fungicides: Pesticides with Dithane® Z-78, Funjeb, Micide, Novosir, Parzate, Perosin, Polyram® Z
- Maneb Fungicides: Pesticides with Dithane® M-22, Lonocol M, Manesan, Manex®, Manzate® Polyram® M
- Mancozeb Fungicides: Pesticides with Dithane® M-45, Mancomix, Manoseb, Marzin, Penncozeb®, Zinmaneb
- Gloves, condoms, bottle nipples and other products made of natural rubber, butyl rubber, nitrile or neoprene
- Antabuse® (medication for alcoholism)

What products may NOT contain carba mix or related substances?*

- Products made entirely of vinyl (PVC), plastic, silicone, polyurethane, polyethylene or acrylates, such as:
 - Durex® Avanti polyurethane condoms
 - Trojan Supra® Microsheer™ polyurethane condoms
- Gloves made of vinyl (PVC), polyurethane, polyethylene or special thermoplastic elastomers:
 - Allerderm® Vinyl medical exam gloves
 - Silvershield®/4H® gloves
 - North Safety PVC Gloves
 - Elastyfree® and Elastylite® surgical gloves
 - Allerderm® Heavy Duty Vinyl utility gloves
- Nitrile or neoprene gloves manufactured without carbamates or thiurams:
 - N-Dex® Free Ultimate nitrile gloves
 - Allerderm® nitrile medical exam gloves
 - True Advantage® nitrile surgical and exam gloves
 - Ultra Preserve® neoprene surgical and exam gloves
- Fungicides without carbamates:
 - Botran® fungicide
 - Fludioxonil (Maxim) or Captan™ fungicides
 - Copper based fungicides
 - Myclobutanil or Systhane® fungicides

*For additional information about products that might contain carba mix or a related substance, go to the Household Product Database online (<http://householdproducts.nlm.nih.gov>) at the United States National Library of Medicine. These lists are brief and provide just a few examples. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have questions. These are general guidelines. Talk to your doctor for more specific instructions

16 Black Rubber Mix – Patient Information

Your T.R.U.E. TEST results indicate that you have a contact allergy to black rubber mix chemicals. Black rubber mix chemicals in contact with your skin may result in dermatitis. Brief or occasional contact may not pose a problem. This contact allergy may cause your skin to react when it is exposed to this substance, although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters.

Black rubber mix contains the following three substances:

- N-isopropyl-N'-phenyl paraphenylenediamine
- N, N'-diphenyl paraphenylenediamine
- N-cyclohexyl-N'-phenyl paraphenylenediamine

These allergens are rubber additives known as antioxidants, and since they discolor the rubber, these additives are used primarily to produce black rubber.

Where is black rubber mix or one of its components found?



At work, you may find black rubber mix or one of its components in:

- **Manufacturing of black rubber products** such as tires, belts, masks, hoses, cables, aprons, gaskets, flanges, stoppers, shoes and boots, sheeting and flooring
- **Black rubber components** on health care and laboratory equipment
- **Office products** made with black rubber components such as feet and wheels on equipment

The black rubber mix ingredients are used less often in products for home use, but they may be found in certain types of rubber articles.



At home, you may find black rubber mix or one of its components in:

- **Household products** made with black rubber such as masks and goggles, shoes, and tires, watchbands, underwear elastic, stockings, dental tips
- **Sports equipment** made with black rubber - such as boots, masks, squash balls, racquet and club handles

The black rubber mix ingredients are not usually used in the manufacture of rubber gloves for domestic or hospital use.

Hair dyes and textile dyes may cross react with the black rubber mix chemicals.

16 Black Rubber Mix

How can you avoid black rubber mix or one of its components?

- Avoid skin contact with black and dark gray rubber. If an object looks like it is made of rubber and it is black, it probably will be a problem. Avoid black rubber sports equipment. Carry vinyl gloves, in your car, in case of a tire change. Use caution when handling other parts that may contain rubber.
- Workers with allergy may experience a problem handling rubber hoses, seals and cables. If you suspect that you are being exposed to this allergen at work, consult your employer regarding Material Safety Data Sheet.
- Only use products that do not list black rubber mix or one of its components or related chemicals on the label, ingredients list or Material Safety Data Sheet (MSDS). If there is no information, contact the product manufacturer.
- Tell your physician, pharmacist, dentist, veterinarian, beautician and hairdresser that you are allergic to black rubber mix or one of its components.
- If you must handle black rubber products, wear protective gloves. Utility or disposable gloves made of fabric, natural or synthetic rubber, or vinyl, are good for working with products made with black rubber mix or one of its components.
- If you think that you contact black rubber mix or one of its components at work, ask your employer for MSDS or manufacturer information on the product(s). Talk to your employer about using a different product or wearing protective gloves and clothing.

What should you look for and avoid?*

Avoid products that list black rubber mix or any of the following names in the ingredients, MSDS or package insert.

- **N-Isopropyl-N'-phenyl-paraphenylenediamine** or N-phenyl-N'-isopropyl-p-phenylenediamine
- **N-Cyclohexyl-N'-phenyl-paraphenylenediamine** or N-cyclohexyl-N'-phenyl-1,4-benzenediamine
- **N,N'-Diphenyl-paraphenylenediamine** or diphenyl-p-phenylenediamine; 1,4-dianilinobenzene; p-phenylaminodiphenylamine; p-bis(phenylamino)benzene; 4,4'-diphenyl-p-phenylenediamine

Common trade names:

N-Phenyl-N'-cyclohexyl-p-phenylenediamine (CPPD)

Phenylcyclohexyl PPD

Flexzone™ GH

N-Isopropyl-N'-phenyl-p-phenylenediamine (IPPD)

Akrochem®

Flexzone 3-C

Antioxidant

IPPD

ANTO "H"™

Permanex™

IP

PD1

Isopropyl 0 PPD

Santoflex®

N,N'-Diphenyl-p-phenylenediamine (DPPD)

Diphenyl® PPD

16 Black Rubber Mix

What are some products that may contain black rubber mix or one of its components?*

- Products made with black rubber such as tires and wheels, industrial belts, masks and goggles, boots and shoes, sports equipment, plugs and stoppers.

What products do NOT contain black rubber mix or one of its components?*

- Products made entirely of vinyl (PVC), plastic, silicone, polyurethane, polyethylene or acrylates

*For additional information about products that might contain black rubber mix or a related substance, go to the Household Product Database online (<http://householdproducts.nlm.nih.gov>) at the United States National Library of Medicine. These lists are brief and provide just a few examples. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have questions. These are general guidelines. Talk to your doctor for more specific instructions.

17 Cl+ Me– Isothiazolinone – Patient Information

Your T.R.U.E. TEST results indicate that you have a contact allergy to Cl+ Me– isothiazolinone (also known as MCI/MI) or one of its components. This contact allergy may cause your skin to react when it is exposed to this substance, although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters.

Cl+Me– Isothiazolinone contains methylchloroisothiazolinone (MCI) and methylisothiazolinone (MI).

These substances are used as preservatives and biocides in many personal care, household and industrial products.

Where is Cl+ Me– isothiazolinone or one of its components found?



At work, you may find Cl+ Me– isothiazolinone or one of its components in:

- Industrial metal working, lubricating and cutting fluids
- Latex emulsions and paints
- Manufacture of cleaning, personal hygiene, cosmetic, skin care and hair care products
- Air conditioning and cooling liquids
- Adhesives and glues
- Cleaning products, hand soaps and cleansers
- Slime control in paper mills



At home, you may find Cl+ Me– isothiazolinone or one of its components in:

- Cosmetics such as foundations and powders, blush, mascaras, eye shadows, eyeliners and pencils
- Cleaning products, waxes, polishes and paints
- Skin care products such as creams, lotions, moisturizers and tanning products
- Hair care products such as conditioners, shampoos and coloring agents
- Laundry products such as detergents, fabric softener
- Personal hygiene items such as soaps, cleaners, bubble baths and wipes

How can you avoid Cl+ Me– isothiazolinone?

- This substance is very common in personal care, cosmetic and household products. Only use products that do not list Cl+ Me– isothiazolinone (MCI/MI) or related chemicals on the label, ingredients list or Material Safety Data Sheet (MSDS). If there is no information, find an alternate product or contact the product manufacturer.
- Tell your physician, pharmacist, dentist, veterinarian, beautician and hairdresser that you are allergic to Cl+ Me– isothiazolinone (MCI/MI). Ask for preparations that do not contain this substance.
- If you must use products that contain Cl+ Me– isothiazolinone (MCI/MI) on pets or children, wear protective gloves. Utility gloves made of natural or synthetic rubber, or vinyl, are good for working with products that may contain Cl+ Me– isothiazolinone (MCI/MI).
- If you think that you contact Cl+Me– isothiazolinone at work, ask your employer for MSDS or manufacturer information on the product(s). Talk to your employer about using a different product or wearing heavy-duty protective gloves and clothing.

17 Cl+ Me– Isothiazolinone

What should you look for and avoid?*

Avoid products that list any of the following names in the ingredients, MSDS or package insert.

- **Methylchloroisothiazolinone** (MCI) or 5-chloro-2-methyl-4-isothiazolin-3-one; Kathon; 5-chloro-2-methyl-2H-isothiazol-3-one
- **Methylisothiazolinone** (MI) or 2-methyl-4-isothiazolin-3-one; 2-methyl-3(2H)-isothiazolone; 2-methyl-2H-isothiazol-3-one

What are some products that may contain Cl+ Me– isothiazolinone?*

- Pantene® Pro V shampoo / conditioner
- Clairol® Hydrience Permanent Hair Color
- Suave® Liquid Hand Soap
- Rite Aid® Baby MoistWipes with Aloe
- Nivea® Creme
- Suave® Moisturizing BodyWash Aloe Vera & Vitamin E
- Suave® Performance Series shampoo
- Thermasilk® Moisturizing Shampoo
- Kirkland Ultra Dishwashing Liquid Soap
- Johnson's® No More Tangles Spray-On Detangler
- Eucerin® Original Moisturizing Lotion
- Rohm & Haas preservative for latex paints

What products are not likely to contain Cl+ Me– isothiazolinone?*

- Alberto VO5® Herbal Shampoo
- Lubrex® Cream
- Lady Grecian® Formula
- Gillette® Shaving Gel for Women
- Neutrogena® Triple Moisture Shampoo
- Lubrex® Cleanser
- Clairol® Loving Care Hair Color
- Cetaphil® Moisturizing Cream, Fragrance Free
- Neutrogena® Transparent Facial Bar
- Huggies® Wipes with Aloe and Vitamin E
- Joy® Dishwashing Liquid, Mandarin Orange
- DHS™ Conditioning Rinse With Panthenol

*For additional information about products that might contain Cl+ Me– isothiazolinone or a related substance, go to the Household Product Database online (<http://householdproducts.nlm.nih.gov>) at the United States National Library of Medicine. These lists are brief and provide just a few examples. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have questions. These are general guidelines. Talk to your doctor for more specific instructions.

18 Quaternium-15 – Patient Information

Your T.R.U.E. TEST results indicate that you have a contact allergy to quaternium-15, also known as Q-15. This contact allergy may cause your skin to react when it is exposed to this substance, although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters.

Quaternium-15 is a commonly used in personal care products such as cosmetics, soaps and shampoos. It belongs to a group of preservatives known as formaldehyde-releasing agents.

Where is quaternium-15 found?



At work, you may find quaternium-15 or formaldehyde-releasing agents in:

- Urea-formaldehyde foam insulation
- Electrode attachment gels used in healthcare
- Embalming and preserving fluids
- Pressed wood such as particleboard, medium density fiberboard (MDF), plywood, oriented strandboard (OSB)
- Urea-formaldehyde resins
- Metal working fluids and coolants
- Glues, inks, toners and paints
- Cleaning products, waxes and polishes



At home, you may find quaternium-15 or formaldehyde-releasing agents in:

- Cosmetics such as foundations and powders, blush, mascaras, eye shadows, eyeliners and pencils
- Durable press (wrinkle-resistant) fabrics
- Cleaning products, waxes, polishes and paints
- Tobacco and cigarette smoke
- Skin care products such as creams, lotions and moisturizers
- Personal hygiene items such as soaps, cleansers, and shampoos
- Smoke from wood, coal, kerosene or charcoal fires

How can you avoid quaternium-15?

- Don't use products with quaternium-15 on your face, hair or body. Only use products that do not list quaternium-15 on the label, ingredients list or Material Safety Data Sheet (MSDS). It may be wise to avoid products that contain other formaldehyde-releasing agents.
- Tell your physician, pharmacist, dentist, veterinarian, beautician and hairdresser that you are allergic to quaternium-15. Ask for preparations that do not contain quaternium-15 or other formaldehyde-releasing agents.
- If you must use products with quaternium-15 at work, on your children or pets, wear protective gloves. Heavy duty gloves made of natural or synthetic rubber, or vinyl, are good for working with products that contain quaternium-15.
- If you think that you contact quaternium-15 at work, ask your employer for MSDS or manufacturer information on the product(s). Talk to your employer about using a different product or wearing protective gloves and clothing.

18 Quaternium-15

What should you look for and avoid?*

Products that include other quaternium substances are safe to use, but you should avoid products that list any of the following names in the ingredients, MSDS or package insert.

- **Quaternium-15** or chloroallyl methenamine chloride; hexamethylenetetramine chloroallyl chloride; 3,5,7-triaza-1-azoniaadamantane, 1-(3-chloroallyl)-, chloride; N-(3-chloroallyl)hexaminium chloride

You may also react to other formaldehyde-releasing agents such as:

- **Formaldehyde** or formalin; formic aldehyde; oxymethylene
- **Bronopol** or 2-bromo-2-nitropropane-1,3-diol
- **Diazolidinyl urea** or N,N'-bis(hydroxymethyl) urea; 1-(1,3-bis(hydroxymethyl)-2,5-dioximidazolidin-4-yl)-1,3-bis(hydroxymethyl)urea
- **DMDMHydantoin** or 1,3-cimethylol-5,5-dimethylhydantoin; 1,3-Bis(hydroxymethyl)-5,5-dimethylimidazolidine-2,4-dione
- **Imidazolidinyl urea** or imidurea; or N,N''-methylenebis(N'-(3-(hydroxymethyl)-2,5-dioxo-4-imidazolidinyl)urea
- **Tris nitro** or trimethylolnitromethane; 2-nitro-2-(hydroxymethyl)-1,3-propanediol; tris(hydroxymethyl)nitromethane; nitroisobutylglycerol

What are some products that may contain quaternium-15?*

- Aveeno® Skin Relief BodyWash
- Cover Girl® Fresh Look Pressed Powder
- Four Paws® Ferret Glow Shampoos
- Johnson's® Baby Baby Shampoo, Original
- Johnson's® Original Baby Shampoo,
- Maybelline® Great LashWashable Mascara
- Blush By Cover Girl®
- Cover Girl® Simply Powder Foundation
- Johnson's® Creamy Baby Oil
- Johnson's® Baby Head-to-Toe BabyWash
- Mr Bubble®, Bubble Bath, Original

What products do NOT contain quaternium-15?*

- Neutrogena® Soft Color Blush
- Pantene® Pro-V Shampoo
- Cetaphil® Gentle Cleansing Bar
- Lubrex® Gentle Hand Cleanser
- Almay® Nearly Naked Touch-Pad Liquid Blush
- Aveeno® BabyWash & Shampoo
- Lubrex® Cream
- Aveda® Shampoo, Rosemary Mint
- Kiss My Face® Grape Jelli BubbleWash
- Pet Scentsations® Premium Ferret Shampoo
- Curel® Continuous Comfort Moisturizing Lotion

*For additional information about products that might contain quaternium-15 or a related substance, go to the Household Product Database online (<http://householdproducts.nlm.nih.gov>) at the United States National Library of Medicine. These lists are brief and provide just a few examples. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have questions. These are general guidelines. Talk to your doctor for more specific instructions.

19 Mercaptobenzothiazole – Patient Information

Your T.R.U.E. TEST results indicate that you have a contact allergy to mercaptobenzothiazole (MBT). This contact allergy may cause your skin to react when it is exposed to this substance, although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters.

You are most likely to contact mercaptobenzothiazole when using, wearing or handling natural or synthetic rubber products at work or at home. Work shoes and athletic shoes are often made with rubber components that contain mercaptobenzothiazole or related substances.

Where is mercaptobenzothiazole found?



At work, you may find mercaptobenzothiazole in:

- **Industrial and safety products** made with natural rubber, butyl rubber, nitrile or neoprene - such as boots, shoes, adhesives, plugs, goggles, mats, headphones, masks, respirators, aprons, gloves, cords, tubing, insulation, and sheeting
- **Office products** made with natural rubber, nitrile or neoprene - such as rubber bands, erasers, mats, and utility gloves
- **Health care equipment** made with natural rubber, butyl rubber, nitrile or neoprene - such as medical and utility gloves, masks, bed sheeting, dental dams, anesthesia equipment, aprons, and tubing
- **Sports equipment** made with natural rubber, butyl rubber, nitrile or neoprene - such as wetsuits, shoes, boots, masks, racquet and club handles



At home, you may find mercaptobenzothiazole in:

- **Household products** made with natural rubber, butyl rubber, nitrile or neoprene - such as rubber bands, ear-and headphones, masks, condoms and diaphragms, goggles, shoes, utility gloves, swimwear, toys, hoses, tubing, and elastic
- **Sports equipment** made with natural rubber, butyl rubber, nitrile or neoprene - such as shoes, wetsuits, boots, masks, racquet and club handles

19 Mercaptobenzothiazole

How can you avoid mercaptobenzothiazole?

- Avoid direct skin contact with rubber products in your car, at work and at home. Use rubber-free alternatives made of vinyl, plastic, leather, wood or fabric. Avoid rubber boots, shoes and insoles.
- Use fabric or plastic films to handle rubber products and avoid direct skin contact.
- Only use products that do not list mercaptobenzothiazole or related chemicals on the label, ingredients list or Material Safety Data Sheet (MSDS). If there is no information, contact the product manufacturer.
- Tell your physician, pharmacist, dentist, veterinarian, beautician and hairdresser that you are allergic to mercaptobenzothiazole, which is often used in rubber products. Ask for products that do not contain mercaptobenzothiazole or related substances.
- Wear protective gloves and clothing made of leather, fabric or rubber that is free of mercaptobenzothiazole.
- Use heavy duty non-rubber gloves (Allerderm® Heavy Duty vinyl or Silvershield®/4H® gloves) when working with chemicals that might contain mercaptobenzothiazole.
- If you think that you contact mercaptobenzothiazole at work, ask your employer for MSDS or manufacturer information on the product(s). Talk to your employer about using a different product, or wearing different protective gloves and clothing.

What should you look for and avoid?*

Avoid products that list any of the following names in the ingredients, MSDS or package insert.

- **Mercaptobenzothiazole** (MBT) or 2-mercaptobenzothiazole; 2-benzothiazolinethione; 2-benzothiazolethiol; benzothiazole-2-thione; 2-benzothiazolyl mercaptan

Because mercaptobenzothiazole is used in certain types of rubber products, you may also react to other substances used in the manufacture of rubber, such as *thioureas*. If your skin is regularly exposed to rubber, you may develop reactions to other substances in rubber, such as *thiurams*, *carbamates* and *mercapto mixes*.

What are some products that may contain mercaptobenzothiazole?*

- | | |
|---|--|
| • Natural rubber, butyl rubber, nitrile or neoprene rubber products | • Microflex® FreeForm SE nitrile medical exam gloves |
| • Allerderm® nitrile medical exam gloves | • N-Dex® nitrile medical exam gloves |

What products may NOT contain mercaptobenzothiazole?*

- | | |
|---|--|
| • Elastyfree® and Elastylite® surgical gloves (thermoplastic copolymer) | • Allerderm® Vinyl medical exam gloves (powder free) |
| • N-Dex® Free Ultimate nitrile exam gloves | • Allerderm® Heavy Duty Vinyl utility gloves |
| • Products made entirely of vinyl (PVC), plastic, silicone, polyurethane, polyethylene or acrylates | • Silvershield®/4H® chemically resistant gloves |
| • Ultra Preserve® neoprene surgical and exam gloves | • True Advantage® nitrile surgical and exam gloves |

*For additional information about products that might contain mercaptobenzothiazole or a related substance, go to the Household Product Database online (<http://householdproducts.nlm.nih.gov>) at the United States National Library of Medicine. These lists are brief and provide just a few examples. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have questions. These are general guidelines. Talk to your doctor for more specific instructions.

20 *p*-Phenylenediamine – Patient Information

Your T.R.U.E. TEST results indicate that you have a contact allergy to *p*-phenylenediamine. This contact allergy may cause your skin to react when it is exposed to this substance, although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters.

p-Phenylenediamine is a dark dye used in almost all permanent hair dyes and some semi-permanent hair coloring.

Where is *p*-phenylenediamine found?



At work, you may find *p*-phenylenediamine in:

- Dyes and coloring agents for textiles, furs and other products
- Permanent and some semi-permanent hair dyes
- Photographic developers
- Temporary, paint-on and black henna tattoos
- Black rubber products and equipment parts
- Printing inks



At home, you may find *p*-phenylenediamine in:

- Permanent and some semipermanent hair coloring products
- Photographic developers
- Textile and fur dyes
- Temporary, paint-on and black henna tattoos
- Coloring agents for facial hair
- Printing inks

How can you avoid *p*-phenylenediamine?

- Only use products that do not list *p*-phenylenediamine or related chemicals on the label, ingredients list or Material Safety Data Sheet (MSDS). If there is no information, talk to your pharmacist or doctor.
- Tell your physician, pharmacist, dentist, veterinarian, beautician and hairdresser that you are allergic to *p*-phenylenediamine. Ask for preparations that do not contain *p*-phenylenediamine or related substances. Be sure to test any hair coloring products before use according to the manufacturer's directions.
- You may also react to some textile dyes related to *p*-phenylenediamine. Talk to your doctor about avoiding clothing, fabric and furs in certain colors.
- If you must use products containing *p*-phenylenediamine on others, wear protective gloves. Utility and disposable gloves made of natural or synthetic rubber, or vinyl, may provide sufficient protection for working with *p*-phenylenediamine depending on the product.
- If you think that you contact *p*-phenylenediamine at work, ask your employer for MSDS or manufacturer information on the product(s). Talk to your employer about using a different product or wearing protective gloves and clothing.

20 *p*-Phenylenediamine

What should you look for and avoid?*

Avoid products that list any of the following names in the ingredients, MSDS or package insert.

- *p*-Phenylenediamine or paraphenylenediamine; 4-phenylenediamine; phenylenediamine; *p*-diaminobenzene; 4-aminoaniline; 1,4-benzenediamine; 1,4-diaminobenzene

You may also react to *p*-phenylenediamine-related substances in textiles, hair colorings and other products:

- Aniline yellow dyes such as *p*-aminoazobenzene or *p*-Dimethylaminoazobenzene
- 4,4'-Methylenedianiline in some rubbers, plastics and epoxy resins
- Other aminobenzene-related compounds
- Disperse Orange dye 1-Amino-2-methylanthraquinone
- Hair dye *p*-toluenediamine

What are some products that may contain *p*-phenylenediamine?*

- Just For Men® Brush In Mustache, Beard & Sideburns
- L'Oreal® Preference & Feria Haircolor
- Clairol® Ultress Custom Color
- Revlon® High Dimension Permanent Haircolor
- Garnier® Nutrisse Permanent Crème Haircolor
- Temporary, paint-on and black henna tattoos
- Clairol® Natural Instincts for Men Haircolor
- Just For Men® Shampoo In Haircolor

What products do NOT contain *p*-phenylenediamine?*

- Lady Grecian® Formula
- Temporary Color Spray
- Clairol® Loving Care Haircolor
- Vegetable-based hair dyes such as juglone from walnut shells
- Jerome Russell's Color Mousse
- Grecian® Formula
- Sun-In®, Spray-In Hair Lightener

*For additional information about products that might contain *p*-phenylenediamine or a related substance, go to the Household Product Database online (<http://householdproducts.nlm.nih.gov>) at the United States National Library of Medicine. These lists are brief and provide just a few examples. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have questions. These are general guidelines. Talk to your doctor for more specific instructions.

21 Formaldehyde – Patient Information

Your T.R.U.E. TEST results indicate that you have a contact allergy to formaldehyde. This contact allergy may cause your skin to react when it is exposed to this substance, although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters.

Formaldehyde is used as a preservative and disinfectant in many industrial and household products. It is also used to finish durable press fabrics. Formaldehyde-releasing agents can be a common source of formaldehyde at home and at work.

Where is formaldehyde found?



At work, you may find formaldehyde and formaldehyde-releasing agents in:

- Urea-formaldehyde foam insulation and resins
- Finish treatments on some textiles and fabrics
- Embalming and preserving fluids
- Pressed wood such as particleboard, medium density fiberboard (MDF), plywood, oriented strandboard (OSB)
- Photographic developer chemicals
- Industrial metal working fluids and coolants
- Glues, inks, toners and paints
- Cleaning agents, waxes and polishes



At home, you may find formaldehyde and formaldehyde-releasing agents in:

- Cosmetics such as foundations and powders, blush, mascaras, eye shadows, eyeliners and pencils
- Durable press (wrinkle-resistant) fabrics
- Cleaning products, waxes, and polishes and paints
- Tobacco and cigarette smoke
- Skin care products such as creams, lotions and moisturizers
- Personal hygiene items such as soaps, cleansers, and shampoos
- Smoke from wood, coal, kerosene or charcoal fires

How can you avoid formaldehyde?

- Wash new clothing and bedding several times in hot water before use. Avoid permanent press and wrinkle resistant clothing.
- Only use products that do not list formaldehyde or formaldehyde-releasing agents on the label, ingredients list or Material Safety Data Sheet (MSDS). If there is no information, contact the product manufacturer or visit their website.
- Tell your physician, pharmacist, dentist, veterinarian, beautician and hairdresser that you are allergic to formaldehyde. Ask for preparations that do not contain formaldehyde or formaldehyde-releasing agents.
- Wear protective gloves. Heavy-duty chemically resistant gloves made of natural or synthetic rubber may be good for working with formaldehyde. Use fabric or leather gloves to protect your hands from wood products that may contain formaldehyde.
- If you think that you contact formaldehyde at work, ask your employer for MSDS or manufacturer information on the product(s). Talk to your employer about using a different product or wearing protective gloves and clothing.

21 Formaldehyde

What should you look for and avoid?*

Avoid products that list any of the following names in the ingredients, MSDS or package insert.

- **Formaldehyde** or formalin; formic aldehyde; methaldehyde; methyl aldehyde; methylene oxide; N-methylol; oxymethylene

You may also react to formaldehyde-releasing preservatives such as:

- **Bronopol**, also known as 2-bromo-2-nitropropane-1,3-diol
- **Diazolidinyl urea**, also known as N,N'-bis(hydroxymethyl) urea and 1-(1,3-Bis(hydroxymethyl)-2,5-dioxoimidazolidin-4-yl)-1,3-bis(hydroxymethyl)urea
- **DMDMHydantoin**, also known as 1,3-cimethylol-5,5-dimethylhydantoin, and 1,3-Bis(hydroxymethyl)-5,5-dimethylimidazolidine-2,4-dione
- **Imidazolidinyl urea**, also known as imidurea, and N,N"-methylenebis(N'-(3-(hydroxymethyl)-2,5-dioxo-4-imidazolidinyl)urea
- **Tris nitro**, also known as trimethylolnitromethane, nitroisobutylglycerol, and 2-nitro-2-(hydroxymethyl)-1,3-propanediol, tris(hydroxymethyl)nitromethane
- **Quaternium15**, also known as chloroallyl methenamine chloride, N-(3-Chloroallyl)hexaminium chloride and hexamethylenetetramine chloroallyl chloride.

What are some products that may contain formaldehyde or formaldehyde-releasing agents?*

- | | |
|--|--|
| • Dove® Deep Moisture BodyWash | • Phisoderm® Deep Cleaning Cleanser |
| • L'Oreal® Lash Out Mascara | • Blush By Cover Girl® |
| • Zeasorb® Super Absorbent Foot Powder | • Pond's® Dry Skin Cream |
| • Baby Magic® Gentle Baby Bath | • Huggies® Natural Care BabyWipes |
| • Revlon® Professional Cuticle Remover | • Cover Girl® Simply Powder Foundation |
| • Hagen Flea & Tick Shampoo for Cats | • Hagen Tearless Shampoo for Dogs |

What products do NOT contain formaldehyde or formaldehyde-releasing agents?*

- | | |
|--|-------------------------------------|
| • Suave® Moisturizing BodyWash | • Lubrex® Gentle Hand Cleanser |
| • Neutrogena® Weightless Volume Mascara | • Almay® Nearly Naked Blush |
| • Dr. Scholl's® Shoe Shot Deodorant Powder | • Lubrex® Hand Cream |
| • Johnson's® Baby Softwash BodyWash | • Tushies™ BabyWipes with Aloe vera |
| • Neu® Glycolic Cuticle Peel | • Almay® Luxury Finish Powder |
| • Aveda® Shampoo, Rosemary Mint | • Aveeno® BabyWash |

*For additional information about products that might contain formaldehyde or a related substance, go to the Household Product Database online (<http://householdproducts.nlm.nih.gov>) at the United States National Library of Medicine. These lists are brief and provide just a few examples. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have questions. These are general guidelines. Talk to your doctor for more specific instructions.

22 Mercapto Mix – Patient Information

Your T.R.U.E. TEST results indicate that you have a contact allergy to mercapto mix. This contact allergy may cause your skin to react when it is exposed to this substance, although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters.

Mercapto mix contains the following three substances:

- N-Cyclohexylbenzothiazyl-sulfenamide
- Dibenzothiazyl disulfide
- Morpholinylmercaptobenzothiazole

You may contact these substances when using, wearing or handling rubber-based products at work or at home. Work shoes and athletic shoes are often made with rubber components that contain mercapto mix or related substances.

Where is mercapto mix or one of its components found?



At work, you may find mercapto mix or one of its components in:

- **Industrial and safety products** made with natural rubber, butyl rubber, nitrile or neoprene - such as boots, shoes, adhesives, plugs, goggles, mats, headphones, masks, respirators, aprons, gloves, cords, tubing, insulation, and sheeting
- **Office products** made with natural rubber, nitrile or neoprene - such as rubber bands, erasers, mats, and utility gloves
- **Health care equipment** made with natural rubber, butyl rubber, nitrile or neoprene - such as medical and utility gloves, masks, bed sheeting, dental dams, anesthesia equipment, aprons, and tubing
- **Sports equipment** made with natural rubber, butyl rubber, nitrile or neoprene - such as wetsuits, shoes, boots, masks, racquet and club handles



At home, you may find mercapto mix or one of its components in:

- **Household products** made with natural rubber, butyl rubber, nitrile or neoprene - such as rubber bands, ear-and headphones, masks, condoms and diaphragms, goggles, shoes, utility gloves, swimwear, toys, hoses, tubing, and elastic
- **Sports equipment** made with natural rubber, butyl rubber, nitrile or neoprene - such as shoes, wetsuits, boots, masks, racquet and club handles

22 Mercapto Mix

How can you avoid mercapto mix or one of its components?

- Avoid direct skin contact with rubber products in your car, at work and at home. Use rubber-free alternatives made of vinyl, plastic, leather, wood or fabric. Avoid rubber boots, shoes and insoles.
- Use fabric or plastic films to handle rubber products and avoid direct skin contact.
- Only use products that do not list mercapto mix, one of its components, or related chemicals on the label, ingredients list or Material Safety Data Sheet (MSDS).
- Tell your physician, pharmacist, dentist, veterinarian, beautician and hairdresser that you are allergic to mercapto mix, which is often used in rubber products. Ask for products that do not contain mercapto mix or related substances.
- Wear protective gloves and clothing made of leather, fabric, plastic or rubber that is free of mercapto mix and related substances.
- Use heavy duty non-rubber gloves (Allerderm® Heavy Duty vinyl or Silvershield®/4H® gloves) when working with chemicals that might contain mercapto mix or one of its components.
- If you think that you contact mercapto mix or a related substance at work, ask your employer for MSDS or manufacturer information on the product(s). Talk to your employer about using a different product or wearing different protective gloves and clothing.

What should you look for and avoid?*

Avoid products that list any of the following names in the ingredients, MSDS or package insert.

- **N-Cyclohexylbenzothiazyl-sulfenamide** or cyclohexyl benzothiazolesulfenamide; 2-(cyclohexylaminothio)benzothiazole; benzothiazyl-2-cyclohexylsulfenamide
- **Dibenzothiazyl disulfide** or 2,2'-cithiobis(benzothiazole); dibenzothiazolyl disulfide; 2,2'-bis(benzothiazolyl) disulfide; 2,2'-dibenzothiazyl disulfide; 2-mercaptobenzothiazole disulfide
- **Morpholinylmercaptobenzothiazole** or 2-benzothiazolyl morpholino disulfide; 2-morpholinodithiobenzothiazole; benzothiazole 2-(4-morpholinyl); 4-morpholinyl 2-benzothiazyl disulfide; benzothiazole, 2-(4-morpholinyl)dithio)

Because mercapto mix is used in certain types of rubber products, you may also react to other substances used in the manufacture of rubber, such as *thioureas*. If your skin is regularly exposed to rubber, you may develop reactions to other substances in rubber, such as *thiurams*, *carbamates* and *mercapto mixes*.

What products may NOT contain mercapto mix substances?*

- Elastifree® and Elastylite® surgical gloves (thermoplastic copolymer)
- N-Dex® Free Ultimate nitrile exam gloves
- Products made entirely of vinyl (PVC), plastic, silicone, polyurethane, polyethylene or acrylates
- Ultra Preserve® neoprene surgical and exam gloves
- Allerderm® Vinyl medical exam gloves (powder free)
- Allerderm® Heavy Duty Vinyl utility gloves
- Silvershield®/4H® chemically resistant gloves
- True Advantage® nitrile surgical and exam gloves

*For additional information about products that might contain mercapto mix substances, go to the Household Product Database online (<http://householdproducts.nlm.nih.gov>) at the United States National Library of Medicine. These lists are brief and provide just a few examples. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have questions. These are general guidelines. Talk to your doctor for more specific instructions.

23 Thimerosal – Patient Information

Your T.R.U.E. TEST results indicate that you have a contact allergy to thimerosal. This contact allergy may cause your skin to react when it is exposed to this substance, although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters.

Thimerosal was commonly used as an antiseptic (such as Merthiolate or Mercurochrome®) and preservative in many medicines and vaccines. Over the past few decades, thimerosal has been replaced with other preservatives. Now, thimerosal is rarely included in antiseptics or medications, including merthiolate.

A contact allergy to thimerosal should not affect your ability to be vaccinated because most modern vaccines do not contain thimerosal. Vaccines given to children under the age of 6 are made without thimerosal. A few adult vaccines are still manufactured with thimerosal as a preservative, but thimerosal-free alternatives can usually be found if needed.

Where is thimerosal found?



At work, you may find thimerosal in:

- Fluorescent dyes in metal working industries and forensic laboratories
- Vaccine and pharmaceutical manufacturing



At home, you may find thimerosal in:

- Vaccines and antitoxins
- In some nose, eye, and ear medications (prescription and over-the-counter)
- Antiseptic sprays

How can you avoid thimerosal?

- Only use products that do not list thimerosal or related chemicals on the label, ingredients list or Material Safety Data Sheet (MSDS). If there is no information, contact the product manufacturer.
- Tell your physician, pharmacist, dentist and veterinarian that you are allergic to thimerosal. Ask for vaccines and medicines that do not contain thimerosal.
- If you think that you contact thimerosal at work, ask your employer for MSDS or manufacturer information on the product(s). Talk to your employer about using a different product or wearing protective gloves and clothing to reduce skin contact.

23 Thimerosal

What should you look for and avoid?*

Avoid products that list any of the following names in the ingredients, MSDS or package insert.

- **Thimerosal** or mercuriothiolate; merthiolate; sodium ethylmercurithiosalicylate; sodium 2-(ethylmercurithio)benzoate; mercury, ethyl(2-mercaptobenzoato-S)-, sodium salt; mercury, ((o-carboxyphenyl)thio)ethyl-, sodium salt

What are some products that may contain thimerosal or a related substance?*

- Coly-Mycin® S Otic with neomycin and hydrocortisone
- Ocufen® ophthalmic solution
- Merbromin (also known as dibromohydroxymercurifluorescein or Mercurochrome®)
- Vaccines - Japanese encephalitis (JE-VAX® by BIKEN), tetanus toxoid (by Aventis Pasteur), hepatitis A/hepatitis B combined (Twinrix® by GSK)
- Neo-Synephrine® Nasal Decongestant Spray, Extra Strength
- Poly-Pred® Liquifilm® sterile ophthalmic suspension
- Piroxicam (also known as Feldene®) used in the treatment of arthritis

What are some similar products that do NOT contain thimerosal or a related substance?*

- Cipro® HC Otic suspension
- Afrin® 12 Hour Nasal Spray, Extra Moisturizing
- Neomycin, polymyxin B and hydrocortisone otic generic suspension
- Blephamide® ophthalmic suspension
- Most vaccines recommended for children under 6 years of age - measles, mumps, rubella (german measles), polio, pertussis (whooping cough), diphtheria, tetanus, Haemophilus influenzae type b (Hib), hepatitis B, Varicella (chickenpox) and pneumococcal disease
- Some influenza (flu) vaccines – FluMist® and thimerosal-free Fluzone® (AP)
- Most types of adult vaccines can be found in a thimerosal-free formulation

*For additional information about thimerosal in products, go to the U.S. Food and Drug Administration (FDA) web site at www.fda.gov. Visit the FDA's Center for Biologics Evaluation and Research for current information about thimerosal in vaccines (www.fda.gov/cber). These lists are brief and provide just a few examples. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have questions. These are general guidelines. Talk to your doctor for more specific instructions.

24 Thiuram Mix – Patient Information

Your T.R.U.E. TEST result indicate that you have a contact allergy to thiuram mix or one of its components. This contact allergy may cause your skin to react when it is exposed to these substances, although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters.

Thiuram mix contains the following four substances:

- Tetramethylthiuram monosulfide
- Disulfiram
- Tetramethylthiuram disulfide
- Dipentamethylenethiuram disulfide

These substances are used as fungicides and pesticides, and in the manufacture of many rubber products. You are most likely to contact this substance when using, wearing or handling natural or synthetic rubber products at work or at home.

Where is thiuram mix or one of its components found?



At work, you may find thiuram mix or one of its components in:

- **Industrial and safety products** made with natural rubber, butyl rubber, nitrile or neoprene - such as boots, shoes, adhesives, plugs, goggles, mats, headphones, masks, respirators, aprons, gloves, cords, tubing, insulation, and sheeting
- **Office products** made with natural rubber, nitrile or neoprene - such as rubber bands, erasers, mats, and utility gloves
- **Health care equipment** made with natural rubber, butyl rubber, nitrile or neoprene - such as medical and utility gloves, masks, bed sheeting, dental dams, anesthesia equipment, aprons, and tubing
- **Sports equipment** made with natural rubber, butyl rubber, nitrile or neoprene - such as wetsuits, shoes, boots, masks, racquet and club handles
- **Chemicals** used to prevent mildew or mold
- **Agricultural chemicals** used as fungicides, seed protectants, and pesticides



At home, you may find thiuram mix or one of its components in:

- **Household products** made with natural rubber, butyl rubber, nitrile or neoprene - such as rubber bands, ear- and headphones, masks, condoms and diaphragms, goggles, shoes, utility gloves, swimwear, toys, hoses, tubing, and elastic
- **Sports equipment** made with natural rubber, butyl rubber, nitrile or neoprene - such as shoes, wetsuits, boots, masks, racquet and club handles
- **Chemicals for the garden** such as fungicides, pesticides and animal repellents

24 Thiuram Mix

How can you avoid thiuram mix or one of its components?

- Avoid direct skin contact with rubber products in your car, at work and at home. Use rubber-free alternatives made of vinyl, plastic, leather, wood or fabric.
- Use fabric or plastic films to handle rubber products and avoid direct skin contact.
- Only use products that do not list thiuram mix, one of its components, or related chemicals on the label, ingredients list or Material Safety Data Sheet (MSDS).
- Tell your physician, pharmacist, dentist, veterinarian, beautician and hairdresser that you are allergic to thiuram mix, which is often used in rubber products. Ask for rubber products that do not contain thiuram mix or related substances.
- Wear protective gloves (fabric or leather) when handling dry rubber goods at work and at home.
- Use heavy duty non-rubber gloves (Allerderm® Heavy Duty vinyl or Silvershield®/4H® gloves) when working with chemicals that might contain thiuram mix or one of its components.
- If you think that you contact thiuram mix or one of its components at work, ask your employer for MSDS or manufacturer information on the product(s). Wear protective clothing when handling rubber hoses, seals, cables, etc. Talk to your employer about using a different product.

What should you look for and avoid?*

Avoid products that list thiurams or the following names in the ingredients, MSDS or package insert.

- **Tetramethylthiurammonosulfide** or bis(dimethylthiocarbamoyl) sulfide; tetramethylthiuram sulfide; tetramethyldithiocarbamic acid anhydrosulfide; sulfide, bis(dimethylthiocarbamoyl)
- **Tetramethylthiuramdisulfide** or Thiram; bis(dimethyl thiocarbamoyl)disulfide; tetramethylthioperoxydicarbonic diamide; N,N'-(dithiodicarbonothioyl)bis(N-methylmethanamine); tetramethylthiocarbamoyldisulphide
- **Disulfiram** or 1,1'-dithiobis(N,N-diethylthioformamide); bis(N,N-diethylthiocarbamoyl) disulfide; tetraethylthiuram disulfide; tetraethylthioperoxydicarbonic diamide
- **Dipentamethylenethiuramdisulfide** or disulfide, bis(1-piperidinylthioxomethyl); bis(pentamethylene)thiuram disulfide; 1,1'-(dithiodicarbonothioyl)bispiperidine

If your skin is regularly exposed to rubber, you may develop reactions to other substances commonly used in the manufacture of rubber, such as mercaptobenzothiazoles, mercapto mix and thioureas.

24 Thiuram Mix

What are some products that may contain thiuram mix or related substances?*

- Vitavax® RS Flowable seed protectant
- Antabuse® medication for alcoholism
- Gloves, condoms, bottle nipples and other products made of natural rubber, butyl rubber, nitrile or neoprene
- Rootone® with fungicide
- Chew-Not™ Deer Repellant

What products may NOT contain thiuram mix or related substances?*

- Miracle Gro® Fast Root Rooting Hormone
- Fludioxonil (Maxim) or Captan™ fungicides
- N-Dex® Free Ultimate nitrile gloves
- Elastyfree® and Elastylite® surgical gloves (thermoplastic copolymer)
- Ultra Preserve® neoprene surgical and exam gloves
- True Advantage® nitrile surgical and exam gloves
- Products made entirely of vinyl (PVC), plastic, silicone, polyurethane, polyethylene or acrylates
- Copper-based fungicides
- Deer Off™ Deer Repellant
- Allerderm® nitrile exam gloves
- Trojan Supra® Microsheer™ polyurethane condoms
- Allerderm® vinyl exam gloves
- Durex® Avanti polyurethane condoms
- Allerderm® Heavy Duty Vinyl utility gloves

*For additional information about products that might contain thiuram mix or related substances, go to the Household Product Database online (<http://householdproducts.nlm.nih.gov>) at the United States National Library of Medicine. These lists are brief and provide just a few examples. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have questions. These are general guidelines. Talk to your doctor for more specific instructions.



3400 East McDowell ■ Phoenix, Arizona 85008-7899

For further information about contact allergies and patch testing, visit www.true-test.com.

25 Diazolidinyl urea – Patient Information

Your T.R.U.E. TEST® indicates that you have a contact allergy to Diazolidinyl urea (Germall® II). This contact allergy may cause your skin to react when it is exposed to this substance although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters.

Diazolidinyl urea is used as a preservative in a variety of applications, most notably in personal care products and cosmetics. It is effective against a broad spectrum of bacteria, fungi, and yeast.

Where is Diazolidinyl urea found?



At work, you may find Diazolidinyl urea in or around:

- Cleansers
- Liquid Soaps
- Cleaning Agents
- Moisturizers
- As a preservative in multiple products
- Pet shampoos

If you suspect you are being exposed to this allergen at work, contact your employer regarding Material Safety Data Sheets (MSDS).



At home, you may find Diazolidinyl urea in or around:

- Cosmetics
- Shampoos/conditioners
- Skin care products
- Haircare products
- Lotions
- Creams
- Moisturizers
- Liquid or powder foundations
- Concealers
- Bronzers/ Self-tanners
- Makeup removers
- Sunscreens
- Eye shadow
- Mascaras
- Liquid soaps
- Bubble baths
- Baby wipes
- Over-the-counter and prescription topical medicines
- Detergents
- Dishwashing liquids
- Cleaning agents

How can you avoid Diazolidinyl urea?

- Check all skin care products, toiletries, soaps, and detergents (prescription and over-the-counter) for Diazolidinyl urea or related ingredients. Do not use products that list these substances on the label or package insert. If there is no information, ask your pharmacist or the manufacturer.
- Inform your healthcare provider that you are allergic to Diazolidinyl urea and ask that they use products that are free from this allergen.
- Avoid cosmetics and other personal care products with Diazolidinyl urea or its synonyms, particularly in stay on products (rinse off products may involve less risk).
- Check each new purchase, products that were once tolerated may cause reactions due to change of formulation involving a different preservative.

25 Diazolidinyl urea

What should you look for and avoid?*

Avoid products that list any of the following names in the ingredients, MSDS or package insert:

- Diazolidinyl urea
- N,N'-Bis(hydroxymethyl) urea
- N-(1,3-Bis(hydroxymethyl)-2,5-dioxo-4-imidazolidinyl)-
- Diazolidinylurea;
- Urea, N-(1,3-bis(hydroxymethyl)-2,5-dioxo-4-imidazolidinyl-N, N'-bis(hydroxymethyl)-
- 1-(1,3-Bis(hydroxymethyl)-2,5-dioxoimidazolidin-4-yl)-1,3-bis(hydroxymethyl)urea
- Germall II
- Tetramethylolhydantoin urea

Because Diazolidinyl urea is a formaldehyde releaser, you may also react to other formaldehyde-releasing substances such as Imidazolidinyl urea, Formaldehyde, Bronopol, Quaternium 15 and Dimethyl dimethyl hydantoin.

When purchasing products that may come in contact with your skin, check the list of ingredients for any of the names listed above. If in doubt contact your pharmacist or physician.

What are some products that may contain Diazolidinyl urea?

- Herbal Essence BodyWash
- Revlon Vitamin C Absolutes Refreshing Tonic/skin toners
- Some Revlon mascaras
- Neutrogena Rainbath Moisturizing Body Mist
- Some Neutrogena moisturizers
- Dep Root Boost
- Some Cover Girl eye pencils and eyeshadows
- Some Paul Mitchell conditioners
- Vitabath bath and shower gels
- Ankh mascara
- Aussie Instant Daily Conditioner
- 8 in 1 Perfect Coat Select Deep Cleansing Shampoo

What are some similar products that do NOT contain Diazolidinyl urea?

- Almay anti-aging day lotion
- Aveeno clear complexion astringent
- Free & Clear conditioner
- Goldwell care color definition conditioner intense
- Clinique strong control gel
- Dove pro-age styling spray
- Head & Shoulders classic clean dandruff shampoo
- Neutrogena clean balance normalizing shampoo
- Purell instant hand sanitizer moisture therapy
- Avon color bronze horizon all over bronzer
- Burt's Bees eye shadow
- Clinique colour surge eyeshadow soft shimmer

*For additional information about products that might contain diazolidinyl urea, go to the Household Product Database online (<http://householdproducts.nlm.nih.gov>) at the United States National Library of Medicine. These lists are brief and provide just a few examples. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have any questions. These are general guidelines. Talk to your doctor for more specific instructions.

26 Imidazolidinyl urea (Germall® 115)– Patient Information

Your T.R.U.E. TEST® indicates that you have a contact allergy to Imidazolidinyl urea (Germall® 115). This contact allergy may cause your skin to react when it is exposed to this substance although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters.

Imidazolidinyl urea is used as a preservative in a variety of applications, most notably in personal care products and cosmetics. It is effective against a broad spectrum of bacteria, fungi, and yeast.

Where is Imidazolidinyl urea found?



At work, you may find Imidazolidinyl urea in or around:

- Cleansers
- Liquid Soaps
- Cleaning Agents
- Moisturizers
- As a preservative in multiple products
- Burn remedies
- Shampoos
- Moisturizing lotions and creams
- Sunscreens
- Petcare products

If you suspect you are being exposed to this allergen at work, contact your employer regarding Material Safety Data Sheets (MSDS).



At home, you may find Imidazolidinyl urea in or around:

- Foundations, powders, concealers
- Eye makeup (liners, shadows, mascara)
- Facial makeup (blushes)
- Bronzes and tanning creams
- Makeup removers
- Cuticle removers
- Burn remedies
- Shampoos
- Moisturizing lotions and creams
- Body powders
- Sunscreens
- Cleansers and other skin care products
- Prescription topical medications
- After shave

How can you avoid Imidazolidinyl urea?

- Check all skin care products, toiletries, soaps, and detergents (prescription and over-the-counter) for Imidazolidinyl urea or related ingredients. Do not use products that list these substances on the label or package insert. If there is no information, ask your pharmacist or the manufacturer.
- Inform your healthcare provider that you are allergic to Imidazolidinyl urea and ask that they use products that are free from this allergen.
- Avoid cosmetics and other personal care products with Imidazolidinyl urea or its synonyms, particularly in stay on products.
- Check each new purchase, products that were once tolerated may cause reactions due to change of formulation involving a different preservative.

26 Imidazolidinyl urea

What should you look for and avoid?

Avoid products that list any of the following names in the ingredients:

- Imidazolidinyl urea
- Imidurea
- Urea, N,N''-methylenebis(N'-(3-(hydroxymethyl)-2,5-dioxo-4-imidazolidin-yl urea
- N,N''-Methylenebis(N'-(1-(hydroxymethyl)-2,5-dioxo-4-imidazolidin-yl)-

When purchasing products that may come in contact with your skin, check the list of ingredients for any of the names listed above. If in doubt contact your pharmacist or physician.

Because Imidazolidinyl urea is a formaldehyde releaser, you may also react to other formaldehyde-releasing substances such as Diazolidinyl urea, Formaldehyde, Bronopol, Quaternium 15 and Dimethyl dimethyl hydantoin.

What are some products that may contain Imidazolidinyl urea?:

- Revlon Moon Drops Extra Gentle Cleanser
- Revlon Eterna '27' All Day Moisture Lotion
- Revlon Professional Cuticle Remover
- Freeman Botanicals Humectant Plus Intensive Conditioner
- Bath & BodyWorks Body Lotion-Flowering Herbs
- Neutrogena Intensified Eye Moisture 12 Hour Hydrating
- Old Spice Sensitive Soothing Gel After Shave & Moisturizer In One Gel
- Oil of Olay ProVital Night Cream
- Cover Girl Invisible Concealer
- Baby Magic, Baby Bath, Original
- Cover Girl Shimmer Eye Pen
- Ponds Dry Skin Cream
- Noxzema Skin Cream Pump Plus
- Cover Girl Smoothers Natural Lash and Browr
- Nilodor Natural Touch Moisturizing Conditioner for Pets

When purchasing products that may come in contact with your skin, check the list of ingredients for any of the names listed above. If in doubt contact your pharmacist or physician.

What are some similar products that do NOT contain Imidazolidinyl urea*

- Almay anti aging day lotion
- Clinique advanced stop signs serum
- Laura Mercier night nutrition renewal creme
- Olay age defying daily renewal cleanser
- Olay body age transform body creme serum
- Aveeno clear complexion astringent
- Biore triple action astringent
- Clean & Clear advantage acne clearing astringent
- Mary Kay MKmen shave foam
- Neutrogena skin clearing shave cream
- Old Spice after shave
- Tom's of Maine shave cream - calendula

*For additional information about products that might contain imidazolidinyl urea, go to the Household Product Database online (<http://householdproducts.nlm.nih.gov>) at the United States National Library of Medicine. These lists are brief and provide just a few examples. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have any questions. These are general guidelines. Talk to your doctor for more specific instructions.

27 Budesonide – Patient Information

Your T.R.U.E. TEST® indicates that you have a contact allergy to Budesonide. This contact allergy may cause your skin to react when it is exposed to this substance although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters.

Budesonide is a potent corticosteroid and anti-inflammatory agent that is most commonly used topically to treat skin disease. Budesonide may be found in medications used to treat asthma, non-infectious rhinitis (including hay fever and other allergies), and nasal polyposis.

Where is Budesonide found?



At work, you may find Budesonide in or around:

- Anti-Inflammatory agents found in topical medications
- Creams, lotions, ointments, and powders
- Inhalation drugs, tablets, and injectables
- Rectal suspensions for treatment of colitis and related diseases



At home, you may find Budesonide in or around:

- Anti-Inflammatory agents found in medications prescribed topically for eczema and other local inflammations
- Creams, lotions, ointments, and powders
- Ear, Nose, and eye drops for rhinitis, otitis, and conjunctivitis
- Inhalation drugs, tablets, and injectables for rhinitis, asthma, and other allergy related lung diseases
- Rectal suspensions for treatment of colitis and related diseases

How can you avoid Budesonide?

- Check all topical, anti-inflammatory preparations (prescription and over-the-counter) for Budesonide and related corticosteroids. Do not use products that list these substances on the label or package insert. If there is no information, ask your pharmacist.
- Inform your healthcare provider that you are allergic to Budesonide and ask that they use products that are free from this allergen.
- Avoid preparations that contain Budesonide and cross-reacting corticosteroids.
- Avoid nasal sprays that contain Budesonide and related corticosteroids.
- When purchasing products that may come in contact with your skin, check the list of ingredients for any of the names listed above. If in doubt contact your pharmacist or physician.

27 Budesonide

What should you look for and avoid?*

Avoid products that list any of the following names in the ingredients:

- (11-beta,16-alpha)-16,17-(Butylidenebis(oxy))-11, 21-dihydroxypregna-1,4-diene-3,20-dione
- (RS)-11beta,16alpha,17,21-Tetrahydroxypregna-1, 4-diene-3,20-dione cyclic 16,17-acetal with butyraldehyde
- 16-alpha,17-alpha-Butylidenedioxy-11-beta, 21-dihydroxy-1,4-pregnadiene-3,20-dione
- Bidien
- Budeson
- Cortivent
- Entocort
- Micronyl
- Preferid
- Pulmicort
- Respules
- Rhinocort
- Rhinocort alpha
- Rhinocort aqua
- Spirocort

Avoid medication such as:

- Amcinonide
- Desonide
- Fluclorinde
- Flunisolide
- Fluocinolone acetonide
- Fluocinonide
- Halcinonide
- Procinonide
- Pulmicort®
- Rhinocort Aqua®
- Rhinocort®
- Symbicort®
- Triamcinolone
- Triamcinolone acetonide
- Triamcinolone diacetate

You may also react to other medications such as:

- Hydrocortisone-17-butyrate
- Hydrocortisone-17-aceponate
- Hydrocortisone buteprate
- Methylprednisolone aceponate
- Prednicarbate

*For additional information about products that might contain budesonide, go to the Household Product Database online (<http://householdproducts.nlm.nih.gov>) at the United States National Library of Medicine. These lists are brief and provide just a few examples. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have any questions. These are general guidelines. Talk to your doctor for more specific instructions.



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For further information about contact allergies and patch testing, visit www.truetest.com

28 Tixocortol-21-Pivalate – Patient Information

Your T.R.U.E. TEST® indicates that you have a contact allergy to Tixocortol-21-Pivalate. This contact allergy may cause your skin to react when it is exposed to these substances although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters.

Tixocortol-21-Pivalate is a widely used topical anti-inflammatory, corticosteroid used in both prescription and non-prescription topical ointments, creams, tablets or injection.

Where is Tixocortol-21-Pivalate found?



At work, you may find Tixocortol-21-Pivalate in or around:

- Medicaments
- Creams, lotions, ointments, and powders



At home, you may find Tixocortol-21-Pivalate in or around:

- Anti-inflammatory agents found in both prescription and non-prescription medications
- Creams, lotions, ointments, and powders for eczema and other local inflammations
- Ear, nose, and eye drops
- Rectal suspensions

How can you avoid Tixocortol-21-Pivalate?

- Check all topical, anti-inflammatory preparations (prescription and over-the-counter) for Tixocortol-21-Pivalate and related corticosteroids. Do not use products that list these substances on the label or package insert. If there is no information, ask your pharmacist.
- Inform your healthcare provider that you are allergic to Tixocortol-21-Pivalate and ask that they use products that are free from this allergen.
- Avoid preparations that contain Tixocortol-21-Pivalate and cross-reacting corticosteroids.
- Avoid nasal sprays that contain Tixocortol-21-Pivalate and related corticosteroids.

What should you look for and avoid?

Avoid products that list any of the following names in the ingredients:

- Tixocortol 21-pivalate
- Tixocortol pivalate
- Tixocortol pivalate
- 11beta,17-Dihydroxy-21-mercaptopregn-4-ene-3,20-dione 21-pivalate
- Pivalone
- Pregn-4-ene-3,20-dione, 21-((2,2-dimethyl-1-oxopropyl)thio)-11,17-dihydroxy-, (11beta)-

28 Tixocortol-21-Pivalate

You may also react to products such as:

- Amcinonide
- Budesonide
- Cloprednol
- Desonide
- Fludrocortisone acetate
- Fluocinolone acetonide
- Fluocinonide
- Flurandrenolide
- Halcinonide
- Hydrocortisone
- Hydrocortisone 17-butyrate
- Hydrocortisone acetate
- Hydrocortisone butyrate
- Hydrocortisone probutate (hydrocortisone buteprate)
- Hydrocortisone valerate
- Methylprednisolone
- Micronized fluocinonide
- Prednicarbate
- Prednisolone
- Prednisolone acetate
- Steroid: group b
- Steroid: group d2
- Triamcinolone

When purchasing products that may come in contact with your skin, check the list of ingredients for any of the names listed above. If in doubt contact your pharmacist or physician.

*For additional information about products that might contain tixocortol-21-pivalate, go to the Household Product Database online (<http://householdproducts.nlm.nih.gov>) at the United States National Library of Medicine. These lists are brief and provide just a few examples. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have any questions. These are general guidelines. Talk to your doctor for more specific instructions.



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For further information about contact allergies and patch testing, visit www.truetest.com

29 Quinoline mix – Patient Information

Your T.R.U.E. TEST® indicates that you have a contact allergy to Quinoline mix. Quinolines are a group of synthetic antibacterial agents that may be used in combination with corticosteroids to treat skin infections such as eczema, athlete's foot, jock itch, and ringworm. It may also be used as an anti-infective, anti-fungal and anti-bacterial agent to treat gastrointestinal, and vaginal infections.

Quinoline mix contains the following two allergens:

- Clioquinol
- Chlorquinaldol

This contact allergy may cause your skin to react when it is exposed to these substances although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters.

Where is Quinoline Mix found?



At work, you may find Quinoline Mix in or around:

- Antifungals
- Antibacterials

If you suspect you are being exposed to this allergen at work, contact your employer regarding Material Safety Data Sheets (MSDS).



At home, you may find Quinoline mix in:

- Prescription and in nonprescription preparations such as: topical antibiotic and antifungal creams, lotions, ointments
- Paste bandages sold in pharmacies for the treatment of wound infections, infected eczema and mycotic skin infections

How can you avoid Quinoline mix?

- Check all skin antibacterial agents for Quinoline mix ingredients.
- Inform your healthcare provider that you are allergic to Quinoline mix and ask that they use products that are free from this allergen. Quinoline preparations are sometimes used topically in surgical wounds. When a topical antibiotic is required, request a suitable safe alternative.
- Use only ingredients that don't list Quinoline, (or synonyms) especially antibiotic preparations.

29 Quinoline mix

What should you look for and avoid?

Avoid products that list any of the following names in the ingredients:

- Clioquinol
- Chlorquinaldol
- Chloriodoquin
- Iodochlorhydroxyquin
- Sterosan
- Vioform

When purchasing products that may come in contact with your skin, check the list of ingredients for any of the names listed above. If in doubt contact your pharmacist or physician.

What are some products that may contain Quinoline Mix?

- Vioform-hydrocortisone cream/ointment
- Vioform-eardrops
- Clioquinol topical
- Chlorquinaldol H
- Sterosan
- Diodoquin
- Quinolol

*For additional information about products that might contain quinoline mix, go to the Household Product Database online (<http://householdproducts.nlm.nih.gov>) at the United States National Library of Medicine. These lists are brief and provide just a few examples. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have any questions. These are general guidelines. Talk to your doctor for more specific instructions.



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